



The SGP Tactic Guide

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USAF School of Aerospace Medicine



TABLE OF CONTENTS

Chapter 1. Introduction – Team Aerospace	1
Chapter 2. Aeromedical Evacuation.....	3
A. Introduction.....	3
1. Overview of Roles/Responsibilities in the AE/ASF Environment	3
2. Concept of Operations:	3
B. Reporting a Patient for AE:.....	4
1. Patient Stability:	4
2. Referring Physician Responsibilities:.....	4
3. Assess Appropriateness of AE:.....	5
4. Assess Movement Precedence:.....	5
5. Medical Treatment Facility (MTF) Flight Surgeon Responsibilities:	5
6. Request versus Requirement:.....	5
7. Validation versus Clearance:	5
8. Medical Attendant (MA) Responsibilities:.....	6
C. The Chief of Aerospace Medicine’s (SGP) specific role(s):	6
Chapter 3. Aerospace Physiology.....	8
A. Introduction:.....	8
B. Physiological Training (Hypoxia, High Altitude, Fatigue, Exercise, etc)	8
C. Human Performance Training Teams (HPTT) (AFI 11-403, 1-7).....	8
D. Acceleration Protection (Centrifuge) Training	9
E. Flight Surgeon Support of Chamber Operations	9
1. Bases With Hypo/Hyperbaric Chambers	9
2. Bases Without Hypo/Hyperbaric Chambers	10
F. High Altitude Air Drop Mission Support (HAAMS)	10
Chapter 4. Air Crew Health.....	11
A. Introduction:.....	11
B. Healthy and Fit Force	11
1. Maintaining Standards	11
a) Initial Flying Class PE’s:	12
b) Recurrent Flying PE’s:.....	12
2. Profiling, Duty Restrictions and MEB’s	12
3. Population Health:.....	12
4. Preventive Health Assessment (PHA):	12
a) Overview of Roles/Responsibilities.....	13
C. Casualty Prevention.....	14
1. Deployment/Travel Medicine (med intel, vacc, prophyl meds):	14
2. Safety Briefings:	14
3. Operational Support Facility Visits:	14
D. Casualty Care and Management	14
1. Accesses and Continuity of Care:.....	14
2. Flight Medicine Group Practice:.....	15
3. Case Management:.....	16
b) Inprocessing:	17
c) DNIF for acute problem:.....	17

d) Consults outside the clinic:	17
e) Waivers	17
f) General Officers:.....	18
4. Other Programs	18
a. Soft Contact Lens Program:	18
b. Aircrew Spectacles:.....	18
c. Photorefractive Keratotomy:	18
d. Personnel Reliability Program (PRP):	18
e. Night Vision Training (NVG):.....	18
f. Go/No go Pills:	19
g. HUD Tape Review:.....	19
h. Laser Exposure:.....	19
i. Use of Cipro in Aircrew:.....	19
Chapter 5. Command and Control of Team Aerospace.....	22
A. Professional Leadership of Team Aerospace	22
B. SGP Leadership in support of the Installation Mission.....	25
1. The SGP as Installation Aerospace Medical Leader.....	25
2. Information Management and the SGP	26
3. Aerospace Medicine Committee Meetings	27
4. Group Committee Meetings with SGP Attendance	27
5. Base or Wing level functions that require SGP participation:	28
C. Full Spectrum Threat Response (Formerly Battle Staff & Survival Recovery Center).....	29
1. Battle Staff	29
2. Crisis Action Team (CAT).....	29
3. Survival Recovery Center (SRC).....	29
4. Disaster Response Force:.....	32
a. Overview of Roles/Responsibilities.....	32
b. MTF/SGP's Specific Role(s)	33
D. Responsibility for Geographically Separated Units	34
1. Overview of Roles/Responsibilities.....	34
2. MTF/SGP's Specific Role(s)	35
3. Summary	36
E. Interaction with AF Reserve/Guard Units/Members.....	36
1. Overview of Roles/Responsibilities.....	37
2. MTF/SGP's Specific Role(s)	37
3. Summary	40
G. Squadron Medical Element	40
1. Introduction.....	40
2. MDG/SGP's Specific Role(s)	42
3. Summary	42
Chapter 6. Disaster and Emergency Response	44
Tips for success	44
Chapter 7. Education and Mentoring.....	47
A. Introduction:.....	47
1. Professional Medical Education:	47
2. Professional Military Education (PME):	48
3. Professional Military Medical Education:	48

4. Military Medical Readiness Training:	48
5. Flight Surgeon Mentoring Program.....	48
Chapter 8. Environmental Program.....	50
A. Base Environmental Programs - Introduction/Overview	50
1. Cleanup	50
2. Compliance	50
3. Conservation.	50
4. Pollution Prevention.....	51
5. Overview of Roles/Responsibilities.....	51
B. Base Environmental Programs - Clean-up	53
1. Introduction/Overview.....	53
2. Overview of Roles/Responsibilities.....	53
3. MTF/SGP's Specific Role(s)	54
C. Base Environmental Programs - Compliance: Sampling, Analysis, Monitoring....	55
1. Introduction.....	55
2. Overview of Roles/Responsibilities.....	55
D. Base Environmental Programs - Compliance: Hazardous Waste	56
1. Introduction.....	56
2. MTF/SGP's Specific Roles in Hazardous Waste.....	56
E. Base Environmental Programs - Compliance: Surface, Ground, and Waste Water	57
1. Introduction.....	57
2. MTF/SGP's Specific Roles in Surface, Ground, and Waste Water Compliance Programs	57
E. Base Environmental Programs - Compliance: Air Emissions	58
1. Introduction.....	58
2. Roles/Responsibilities	58
3. MTF/SGP's Specific Roles in Air Emissions Compliance Programs	58
F. Base Environmental Programs - Compliance: Potable Water	59
1. Introduction.....	59
2. Roles/Responsibilities	59
3. MTF/SGP's Specific Roles in Potable Water Compliance Programs	59
H. Base Environmental Programs - Compliance: HAZMAT Emergency Planning and Response	60
1. Introduction.....	60
2. MTF/SGP's Specific Roles in Hazardous Material (HAZMAT) Emergency Planning and Response Compliance Programs.....	60
I. Base Environmental Programs - Compliance: Asbestos Management	61
1. Introduction.....	61
2. MTF/SGP's Specific Roles in Asbestos Management Compliance Programs.	61
J. Base Environmental Programs - Compliance: Lead-Based Paint (LBP).....	62
1. Introduction.....	62
2. Specific Roles in Lead-Based Paint (LBP) Compliance Programs	62
K. Base Environmental Programs - Compliance: Tank Compliance	63
1. Introduction.....	63
2. MTF/SGP Specific Roles in Tank Compliance Programs.....	63
L. Base Environmental Programs -Compliance: Radon Compliance	63
1. MTF/SGP Specific Roles in Radon Compliance Programs	63

M.	Base Environmental Programs - Conservation.....	64
1.	MTF/SGP Specific Roles in Conservation Programs	64
N.	Base Environmental Programs - Pollution Prevention	64
1.	MTF/SGP Specific Roles in Pollution Prevention Programs	64
Chapter 9. Epidemiology		66
A.	Introduction.....	66
B.	Synopses of Epidemiology programs on base:	66
1.	Tuberculosis Detection and Control Program.....	66
2.	Prevention and Control of Sexually Transmitted Disease, AFI 48-106 (29 APR 1994). 67	
3.	Food Safety Program, AFI 48-116 (19 JUL 1994).	67
4.	Surveillance and Reporting of Communicable Diseases, AFI 48-105	67
5.	Syndromic Surveillance	68
6.	Human Immunodeficiency Virus Program, AFI 48-135	68
Chapter 10.Health Promotions		

69

A.	General Information.....	69
1.	Program Definition and Purpose.....	69
2.	Health Promotion Programs (HPPs)	69
3.	Responsibilities	69
B.	Population Health Assessment	71
1.	Program Definition and Purpose.....	71
2.	Population Health Assessment Programs	71
3.	Tips For Success	72
C.	Nutrition Education Program	72
1.	Program Definition and Purpose.....	72
2.	Nutrition Education Programs	73
3.	Responsibilities	74
4.	Tips For Success	74
D.	Fitness Enhancement Program.....	74
1.	Program Purpose	74
2.	Fitness Enhancement Program.....	75
3.	Responsibilities	76
4.	Tips For Success	76
E.	Cardiovascular Disease, Cancer, and Other Preventive Efforts	78
1.	Responsibilities	78
2.	Tips For Success	78
F.	Stress Management	79
1.	Program Definition and Purpose.....	79
2.	Stress Management Programs	79
3.	Responsibilities	79
4.	Tips for Success	79
G.	Alcohol and Substance Abuse Prevention	80
1.	Program Definition and Purpose.....	80
2.	Responsibilities	80
3.	Tips for Success	80
H.	Tobacco Use Cessation and Prevention.....	81

1. Program Definition and Purpose.....	81
2. Tobacco Use Cessation and Prevention Programs.....	81
3. Responsibilities	81
4. Tips for Success	82
Chapter 11. Occupational Health and Safety	
83	
A. Clinical Occupational Medicine - Fitness and Risk Evaluation	83
1. Purpose.....	83
2. Overview	83
3. Who is involved in the FFD/FRE Program.....	83
4. OHWG	84
a) Supervisor's role:	84
b) Worker's role:	85
c) Civilian Personnel Office (CPO) role:.....	85
5. How to do FFD/FREs Well.....	85
6. FFD/FRE Program Evaluation.....	86
7. FFD/FRE Tools.....	86
B. Clinical Occupational Medicine – Occupational Health Exams	87
1. Background	87
2. Examinations:.....	87
3. Care of Work Related Injuries and Illnesses.....	88
4. MTF/SGP	88
5. Summary	89
C. Medical Unit Employee Health and Safety Programs	89
1. Introduction.....	89
2. Infection Control Program	89
3. Communicable Disease in Medical Workers.....	90
4. Hospital/Occupational Exposure to TB Prevention Program	91
5. Blood borne Pathogens Protection.....	91
6. Microwave and other Radio Frequency Radiation:	92
7. Lasers:.....	92
D. Occupational Epidemiology –.....	93
1. Occupational Illnesses and Injuries.....	93
a) Introduction.....	93
b) Overview of Roles / Responsibilities.....	94
c) SGP's Specific Role(s)	94
d) Summary	94
2. OSHA Incident / Accident Log.....	95
a) Introduction.....	95
b) Overview of Roles / Responsibilities.....	95
c) SGP's Specific Role(s)	95
d) Summary	95
3. Reproductive Health / Fetal Protection.....	96
a) Introduction.....	96
b) Overview of Roles / Responsibilities.....	96
c) SGP's Specific Role(s)	96
d) Summary	97

E.	Occupational Health Education Activities	97
1.	Hazard Communication Program.....	97
a)	Accessibility.....	98
b)	Workplace Training	98
c)	Material Safety Data Sheets (MSDS)	98
d)	Hazardous Chemical Inventory List	98
e)	Non-Routine Tasks	99
2.	Personal Protective Equipment	99
a)	Chemical, Biological and Physical Protections	99
b)	Respiratory Protection.....	99
c)	Head Protection.....	100
d)	Eye and Face Protection.....	100
e)	Hearing Protection	101
f)	Protective Clothing	101
g)	Feet Protection	101
3.	Summary	101
F.	SGP Responsibility for the Occupational Medicine Shop Visit Program	102
1.	Introduction.....	102
2.	Overview of Roles/Responsibilities.....	102
3.	The Chief of Aerospace Medicine's (SGP) specific role(s):	104
4.	Summary:	104
G.	Command Core	105
1.	Background	105
2.	Overview/Responsibilities - Bioenvironmental Engineering (BE):	105
3.	Overview/Responsibilities - Public Health/Force Management (PH):	106
4.	Overview/Responsibilities - Chief of Aerospace Medicine (SGP):	106
5.	Summary	106
6.	Points of contact.....	106
H.	Confined Space Program	107
1.	Background	107
2.	Overview/Responsibilities	108
3.	Summary	108
I.	Directed Energy - LASERs.....	110
1.	Background	110
2.	Overview	111
3.	Responsibilities	112
4.	Points of contact.....	112
J.	Non-ionizing Radiation.....	114
1.	Background	114
2.	Responsibilities	114
3.	Controls	115
a)	Engineering Control Measures:	115
b)	Administrative and Physical Controls:	116
c)	Personal Protective Equipment:.....	116
4.	Contacts.....	117
Chapter 12.		Public Health

A. Animal Bite (Rabies) Program.....	117
1. Introduction.....	117
2. Responsibilities	118
3. SGP Specific Roles	118
5. Summary	119
B. Food Safety Program	119
1. Introduction.....	119
2. Overview of Roles/Responsibilities.....	119
3. MTF/SGP's Specific Role(s)	120
4. Summary	120
C. Public Facility Surveillance	121
1. Introduction.....	121
2. Overview of Roles/Responsibilities.....	121
3. MTF/SGP's Specific Role(s)	122
4. Summary	122
5. References	122
D. Prevention and Control of Sexually Transmitted Diseases (STD)	122
1. Introduction.....	122
2. SGP Specific Roles	123
3. Summary	123
E. Tuberculosis (Tb) Prevention (Program)	124
1. Introduction.....	124
2. Procedures:.....	124
3. SGP Specific Roles	125
4. Summary	125

Chapter 13.Readiness and Deployment Support

127

A. Deployment Line Support.....	127
1. Introduction.....	127
2. Overview of Roles/Responsibilities.....	127
3. MTF/SGP's Specific Role(s)	128
4. Summary	128
B. Deployment Medical Briefs	129
1. Introduction.....	129
2. Overview of Roles/Responsibilities.....	129
3. MDG/SGP's Specific Role(s)	130
4. Summary	130
C. Deployment Planning	130
1. Introduction.....	130
2. Overview of Roles/Responsibilities.....	131
3. MDG/SGP's Specific Role(s)	131
4. Summary	132
D. EMEDS/AFTH.....	132
1. Introduction.....	132
2. Overview of EMEDS/AFTH Configurations	133
3. MDG/SGP's Specific Role(s)	135
4. Summary	135

E. Quantitative Mask Fit Program	135
1. Introduction.....	135
2. Overview of Roles/Responsibilities.....	136
3. MTF/SGP's Specific Role(s)	137
4. Summary	137
F. Medical Intelligence Officer	137
1. Introduction.....	137
2. Overview of Roles/Responsibilities.....	138
3. MTF/SGP's Specific Role(s)	138
4. Summary	138
G. Pre/Post Deployment Health Assessments	139
1. Introduction.....	139
2. Overview of Roles/Responsibilities.....	139
3. MTF/SGP's Specific Role(s)	140
4. Summary	140
Chapter 14. Safety Program: Flying and Ground	
141	
A. Base and Flying Safety Programs	141
1. Introduction.....	141
2. Overview of Roles/Responsibilities.....	141
3. The Chief of Aerospace Medicine's (SGP) specific role(s):	142
4. Summary:	142
Chapter 15. Preventive Medicine	
144	
A. Introduction.....	144
B. Prevention in the AFMS	145
C. Clinical Preventive Medicine.....	148
D. Population Health.....	150

Chapter 1. Introduction – Team Aerospace

Throughout time, disease and non-battle injuries (DNBI) have been had more to do with the outcome of history as actual battles between combatants. One of the first key military conflicts that shaped Western Civilization, the Peloponnesian War, was largely decided by DNBI. Athenians, engaged in a war against Sparta in 430 B.C., found its army concentrated in close quarters in the besieged city of Athens. A "pestilence", thought to have originated in Ethiopia, is estimated to have devastated two thirds of the local Athenian population and their army. This frustrated any hope of victory by the Athenians in the conflict. Although the cause of the "pestilence" is unknown, it is suspected from descriptions of the illness that it was a malignant form of streptococcal infection and associated scarlet fever. Streptococcal infection caused a major loss of combat effectiveness of US Troops in WW2, with incidence rates of scarlet fever as high as 800/100000 in 1944, and strep is still a major concern at all basic training facilities in the US Military. As recently as 2001 at Lackland AFB, a recruit was critically ill following necrotizing fasciitis from a streptococcal infection. Problems that plagued the Athenians are still with us today!

US experience in the civil war clearly shows the effect of DNBI on an Army. The US Army suffered 279,000 total deaths in the Civil War, 93,000 from battle, and the others from DNBI (2:1 ratio for DNBI). Mechanisms of disease were poorly understood up during the Civil War, the bacterial theory disease had not yet been fully formulated or understood. It was not widely understood that contaminated water spread dysentery, one of the major causes of DNBI. After the American Civil War it became possible to establish a scientific prevention program, the basic medical science was sufficient to allow prevention programs to be put in place and reduce DNBI.

During the American Civil War (1865) the cause of infectious diseases were not known, by the Boer war (1898), the bacterial cause of disease was beginning to understood and good programs existed to decrease these losses in the British Army. Yet poor execution in the British Army did not allow these programs to function effectively. Therefore even with the necessary knowledge, a 2:1 ratio of DNBI over casualties from combat was the experience for the British during the Boer War.

The Japanese at the same time period, during the Russo-Japanese War, did demonstrate adequate planning and good execution could result in a decrease in proportion of losses from DNBI. The Russo-Japanese war was a bloody intense conflict, in a harsh environment and an area known for infectious diseases. The Japanese reversed the ratio and had 2 battle casualties for every one DNBI. The Korean Conflict was the first time the US Military had more battle casualties than DNBI.

Certain aspects of military operations lead themselves to DNBI. The concentration of personnel, harsh living conditions, the use of complicated and hazardous equipment and training involved with new people all combine to increase DNBI. Efforts to prevent DNBI are just as important today, both in garrison and deployed. Team Aerospace refers to the Air Force's mission elements that when deployed in an integrated fashion, maintain or improve combat effectiveness of an Air force Unit.

Team Aerospace is everyone's business in the Air Force Medical Service. It is the medical mission most likely to affect the outcome of military action by the USAF. Team Aerospace is the constellation of missions and functions that are key to minimizing DNBI and enhance the combat effectiveness of the supported organization or unit. Team Aerospace is a unique proactive organization of these missions and is particular to the USAF Medical Service. Team Aerospace is currently defined in Air Force Policy Directive 48-1 and Air Force Instruction 48-101. Major components of the Team Aerospace Mission can also be found in the Air Force Doctrine Document 2-4.2 Health Services and in the new draft of the Medical Service Doctrine. Trained personnel are always the most expensive and hardest commodity to replace for a modern military, DNBI can have a major impact on the outcome of a war.

The major components of Team Aerospace are Bioenvironmental Engineering (BE), Flight Medicine (FM), Public Health (PH), and the Health And Wellness Center (HAWC). Other flights within a medical group make key contributions to this mission, but these four elements are the most directly involved on a day-to-day basis. BE is primarily involved with hazard characterization, either in the work place or environmentally. The BE also may participate in engineering the removal or reduction of risks. Flight Medicine provides medical expertise on treatment and prevention of disease, human factors and safety issues. Public Health manages epidemiology, data management, community health issues, and the HAWC works on aspects of prevention.

Team Aerospace to be most effective, must be deployed in an integrated fashion, both within the medical group, and within the Wing. If Team Aerospace identifies a human factors issue, but does not convey this to Wing elements that can take advantage of this information there is no benefit. The Chief, Aerospace Medicine (SGP) is key to the integration of Team Aerospace both internal to Team Aerospace, within the medical group, and the entire Wing. A successful and productive Team Aerospace always have dedicated and capable SGPs. In a manner analogous to the Chief, Professional Services, Chief, Nursing Services, the SGP assures the high professional quality of key elements of the program, brings particular knowledge of the "human weapon system" and directs their integration for maximum mission accomplishment. Traditionally, because of the focus on "Human Weapon System", medical training has been a big advantage for the SGP. Objective Medical Group, version 2, released 1997, paragraph 3.6.2.4 states "Each medical group will have a senior officer from the aerospace medicine career field to serve on the executive committee, prevention functions, and other advisory committees. This officer will normally be a senior aerospace medicine physician (AFSC 48A3), if available." 5.3.1 the guide states "Chief of Aerospace Medicine Medical Corps officer that provides medical oversight and advice to the MDG commander, Executive Committee, and Aerospace Medicine Squadron commander". The SGP role is an essential element of the command and control of Team Aerospace.

Chapter 2. Aeromedical Evacuation

A. Introduction

The Chief, Aerospace Medicine (SGP) is the facility consultant on aeromedical evacuation (AE). The SGP provides professional oversight of AE patients, commenting to the command element on professional issues to ensure patients receive optimal medical care before, during, and after AE missions.

Flight surgeons must ensure patients are stable for transport and properly prepared to fly. They are the local clearance authority and may fly as medical attendants if required for patient care. If there is an aeromedical staging facility (ASF), the SGP has clearly defined responsibilities as delineated in the latest HSI guide for 2003. The SGP must arrange for medical consultation for transient patients requiring special care and must also ensure a flight surgeon evaluates patients arriving at the ASF initially and at least once every 24 hours thereafter. At facilities without an ASF, the flight surgeon is still the consultant on patients entered into the AE system. If optimally, the flight surgeons may see all patients and even the non-medical attendants. These encounters must be appropriately documented in the AE patient record. If seeing all patients is impractical, at a minimum all records should be reviewed and problematic patients seen. A checklist can be included to emphasize critical issues (e.g., Hbg/Hct; history, including recent surgery, acute blood loss, organic heart disease, decompression sickness and sickle cell trait; special diet; and supply of medicines).

1. Overview of Roles/Responsibilities in the AE/ASF Environment

The SGP must be fully aware of the roles and responsibilities of each member in the AE team. Excellent resources for preparation of patients with specific medical conditions include the NATO Handbook AE Chapter, NATO Handbook AE Rapid Pre-flight Checklist, Flight Surgeon's Checklist, and the Medical Guidelines for Air Travel.

2. Concept of Operations:

According to Air Force official doctrine, AE delivers movement capability while maintaining a broad spectrum of medical capabilities for patients. The AE system provides:

- Control of casualty movement by air transport
- AE personnel and equipment for in-flight supportive patient care and ground support operations (c) Critical Care Air Transport Teams (CCATTs) to manage patients requiring intensive care
- Facilities and personnel on or near the vicinity of airheads and air bases for the administrative processing, staging, and limited medical care of casualties entering or transiting the AE system
- Command and control of all theater AE forces and operations
- Organic communication network capability between/among en route medical facilities and airlift command and control agencies

Over the past decade there has been a doctrinal shift in the care and management of casualties focusing on delivery of essential care in theater and evacuation to definitive care capabilities outside the theater of operations as soon as practical. To support this, medical assets, including AE components, must be smaller, rapidly deployable, more effective, and technologically advanced. It is imperative that first responder, resuscitative surgery, and theater hospitalization medical personnel ensure patients are properly prepared for evacuation to the fullest extent that clinical capabilities, patient load, and operational scenarios allow. This must include anticipating and addressing problems that may develop during movement. Aeromedical evacuation crew members (AECMs) continue the originating provider's plan of care, and they attempt to sustain without interruption the level of care initiated before evacuation and to prevent the patient's condition from deteriorating during evacuation. AECMs may have additional support from CCATTs or other medical attendants.

B. Reporting a Patient for AE:

Originating physicians and staff, in consultation with local flight medicine personnel, begin by defining the level of care and the care plan required en route. They must identify age groups, (e.g. neonates) and disease states that require specialty care en route.

1. Patient Stability:

Patients validated for transport by AE must be stabilized (secure airway, controlled hemorrhage, treated shock, and immobilized fractures) as best as possible. Treatment interventions (i.e., IV or Foley catheter) should be initiated before flight. The AE system provides flight nurses and aeromedical evacuation technicians who can be augmented by CCATTs or other medical attendants (MAs) based on patient stability and condition.

2. Referring Physician Responsibilities:

The referring physician is jointly involved in preparing patients for AE with flight medicine, and appropriate staff at the referring hospital/military treatment facility. The referring physician remains accountable for clinical preparation of patients for transport. The following areas are the responsibility of the referring physician, by federal law, until the patient is under the direct care of the receiving physician at the destination medical facility: responsibility for obtaining informed patient consent for transfer, establishing a valid indication for transfer, obtaining an accepting physician, pre-transfer medical screening and preparation, and forthright communication of the condition, AE category and precedence of the patient to the accepting physician and to the Patient Movement Requirements Center (PMRC). Responsibility for the care plan can be transferred to a physician medical assistant who accompanies the patient during transport. In addition to physiologically stabilizing a patient, proper patient preparation by referring physicians includes ensuring that patients have adequate quantities of supplies and medications to last until reaching the final destination, and good documentation for use by en route care providers.

3. Assess Appropriateness of AE:

When choosing to report a patient for AE movement, a referring physician should weigh the advantages of AE movement against the risks posed by AE (i.e., austere environment, available local medical capabilities, stressors of flight). He must also consider other modes of transport. An accurate clinical picture and care plan must be provided to flight medicine at the referring location for AE clearance before requesting AE movement from a PMRC. If flight medicine resources are not available this can be accomplished by PMRC.

4. Assess Movement Precedence:

Determine when the patient would best be picked up/enplaned and when the patient would best be delivered to the care of an accepting physician, based on clinical requirements. (See Table 12.5)

5. Medical Treatment Facility (MTF) Flight Surgeon Responsibilities:

At the referring MTF, flight surgeons determine whether patients can be moved successfully by AE. If a flight surgeon is not available, the PMRC is available for consultation. The flight surgeon is the local authority for determining whether patients are physiologically ready for requesting air transport. He should consider total time in transit and the number of en route stops patients would experience before reaching their final destinations. The local flight surgeon continually assesses patients, particularly just before departure, assuring a stabilized status. If the patient's condition deteriorates, the flight surgeon determines (in consultation with the referring physician if possible) whether the AE should proceed.

6. Request versus Requirement:

There is a difference between movement requests and movement requirements. Physicians at originating or accepting facilities submit requests for movement, timing, destination, suggested support therapies, etc. Only the Validating Flight Surgeon (VFS) and the PMRC can validate those requests. In "validating" a request, requests are transformed into airlift "requirements". Aeromedical evacuation airlift planners of the AE Control Team in the Air Mobility Division recognize and respond only to validated requirements. The AE airlift planners work closely with the PMRC in coordinating airlift for validated patient requirements identified through the PMRC.

7. Validation versus Clearance:

Two levels of activity occur in the process of moving patients by air:

<i>Activity</i>	<i>Location at Which the Activity Occurs</i>
Clearance to move by air	Medical Treatment Facility (MTF)
Validation for Aeromedical Evacuation	Patient Movement Requirements Center (PMRC)

Aeromedical evacuation clearance is a medical care event; validation is a logistic, not a medical event. The VFS brings medical leadership and decision making to the process of prioritizing use of the scarce aviation assets. A VFS will do a flight surgeon common sense check on whether the patient should fly at all. In a comparative fashion, Emergency physicians do not request an ICU bed for a

resuscitated patient until he/she has been stabilized to make the journey. The hospital facility's authorized individual, e.g. possibly the chief nurse or unit supervisor, validates the transfer by confirming bed availability, unit capability in relation to the patient's diagnosis, and the timing of unit bed availability. The patient will not leave the ER until that hospital's approval authority communicates the "validation decision." Referring attending physicians in the AE environment must clearly communicate the diagnosis, the clinical condition of the patient, what ongoing care is needed to support that patient, and whether modifications to that care plan will be needed in an aviation environment. The referring physician must assure that the patient is ready to move, and will consult an experienced/credentialed flight surgeon before movement.

Clearance addresses the following:

- Description of the medical condition of the patient,
- Can the patient survive transit through an aviation environment,
- What the patient needs to make the trip safely

Local clearance does not involve selecting airframes, or scheduling of movement.

8. Medical Attendant (MA) Responsibilities:

All MAs will be familiar with the patient and possess the level of skills appropriate to the patient's needs. Medical attendants coordinate the delivery of all patient care with AE crews and serve as resources to the AE medical crew director (MCD). A physician medical attendant (PMA) must be a credentialed, licensed attending physician. A PMA, when present on board, will be responsible for medical orders en route for the patient's care. A physician family member cannot serve as a physician medical attendant for a patient. PMAs may be called upon by the AE crew as a resource to assist in the care of other patients on the aircraft. They are required to provide and document all patient care during flight. At en route stops, PMAs must brief the providers who will be caring for the patient and remain available for consultations. **PMAs will remain with the patient until relieved by the same level of care provider.** PMAs are not responsible for direct patient care at en route locations and must be allowed the opportunity to rest.

C. The Chief of Aerospace Medicine's (SGP) specific role(s):

Provides professional oversight on the AE system and comments on the quality and effectiveness of procedures are in place to effectively manage medical aspects of AE system.

Summary:

Flight surgeons have unique knowledge of altitude physiology and clinical medicine that defines the role they assume in the AE/ASF arena. Their inputs can make the difference between whether a patient lives or dies during transport. The SGP must instill in their flight surgeons the importance of properly clearing and preparing patients. Flight surgeons cannot become complacent in the sea of 3899s they review. Remember to plan for the worst, but hope for the best. The SGP must understand the "AE/ASF Flight Surgeon" role, be able to model and teach it, and then ensure that the expectations are being met. The SGP must also ensure that all other members of the

AE/ASF team are fully participating and that all function as a single unit in their drive to safely transport our brothers in arms.

Key AE/ASF References (Most in Appendix)

- Advanced Trauma Life Support for Doctors; Instructors Course Manual. 6th ed. Chicago: American College of Surgeons; 1997.
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Chapter 3. Aerospace Physiology

A. Introduction:

The SGP needs to be familiar with the functions of the Aerospace Physiology mission whether there is a Aerospace Physiology Flight at the base or just a Human Performance Training Team (HPTT). It is helpful to know what they can do for you in terms of training, safety briefs, HUD tape reviews etc.

B. Physiological Training (Hypoxia, High Altitude, Fatigue, Exercise, etc)

The aerospace physiology training mission includes aerospace physiology officer (43A) and aerospace physiology technician (4M0X) who instruct aircrew, aeromedical specialists and various operational support personnel on topics of hypoxia, high altitude protection, high altitude parachutist (HAP), acceleration protection, fatigue management, night vision training, crew resource management, high altitude airdrop mission support (HAAMS), and other threat-based physiology related issues.

Aerospace physiology officers and technicians provide topical instruction primarily through the Original Course which includes “altitude” chamber, and Tanker Transport and Bomber (TTB) and Trainer, Attack, Reconnaissance, Fighter (TARF) Refresher Courses every 5 years at bases with Aerospace Physiology Training Flights. This in itself is not enough. These topics need to be briefed on a more frequent basis at Wing and Squadron Safety meetings and other meetings either by the flight surgeons or by physiologists in coordination with the Flight Medicine and the host Flight Safety Office. Specific medical/physiological briefings should be provided to unit aircrews on a regular basis with topics tailored to unit taskings and training programs (AFI 11-403, 1.5). It is helpful to keep good documentation of the training accomplished to ensure all the important topics are covered. The briefings the physiologist give is in addition to the usual required and recommended flight surgeon briefings.

C. Human Performance Training Teams (HPTT) (AFI 11-403, 1-7)

Human Performance Training Teams (HPTTs) are normally assigned to bases where there is no Aerospace Physiology Training Flight. The HPTT consists of a physiologist and a physiology technician who are assigned to the Med Group under the AMDS/CC. Physiology Officers are authorized to fly on a non-interference basis, but are not rated and do not receive flight pay. The HPTT should work closely with the Flight Surgeon to advise commanders on human performance factors, which may negatively impact, combat capability and assist in Operational Risk Management. They provide consultations and training of fatigue-countermeasure tools. They are there to provide mission tailored training that is specific, timely and threat-based to aircrew and various ground based support specialties. The HPTT Officer or Flight Surgeon instruct aircrew during their Instrument Refresher Course (IRC) on fatigue management, Operational Risk Management (ORM), Crew Resource Management (CRM), night vision goggles, Head-Up Display (HUD) tape review and other performance issues.

The physiologist can assist on reviewing squadron HUD tapes for F-15, F-16, OA-10 but not the F-15E, T-38 (AFI 11-2X-XXV1). The requirement for flight

surgeons/physiologists to review tapes is “each training cycle”. However, the Flight Surgeon should not totally give this responsibility away.

D. Acceleration Protection (Centrifuge) Training

Centrifuge training is governed by its own AFI (AFI 11-404). Centrifuge training for aircrew is conducted primarily at Holloman AFB, NM employing their high-G onset (6Gs/sec) centrifuge. This training emphasizes cognitive understanding and performance techniques designed to increase aircrew awareness of the effects of acceleration (primarily +Gz – cranium-to-foot) and to train the aircrew in the proper use of the anti-G straining maneuver (AGSM). Centrifuge training is required between the T-37 and T-38 phases of Specialized Undergraduate Pilot Training (SUPT) and between Strike Core and Strike/Fighter phases in Joint Specialized Undergraduate Navigator Training (JSUNT). Qualification training takes place prior to introduction to fighter fundamentals (IFF). It is required for pilots, and other aircrew (including flight surgeons) assigned to the high-G aircraft. Refresher training is for high G onset aircraft (HGOA) aircrews that haven’t been assigned/flown a HGOA for 3 years or are converting to a higher G-onset rate aircraft. Commander directed training is also available to address specific AGSM technique problems (AFI 11-404). USAFSAM aeromedical specialty students such as Advanced Aerospace Medicine for International Medical Officers (AAMIMO), Aerospace Medicine Primary (AMP), Aerospace Physiology Officer (APO) etc, complete their centrifuge training at Brooks City Base in the Air Force Research Laboratory (AFRL) high-G onset (6 Gs/sec) centrifuge. Physicians in the Residency of Aerospace Medicine (RAM) program at USAFSAM are trained at Holloman AFB like pilots and Navigators. Instructor Pilots from Shepard AFB and Randolph AFB in the Pilot Instructor Training (PIT) Program are also trained in the AFRL centrifuge.

E. Flight Surgeon Support of Chamber Operations

1. Bases With Hypo/Hyperbaric Chambers

Flight surgeons need to take an active role in developing and reviewing procedures for chamber reactors or emergency hyperbaric operations (HSI Guide). The plans need to be reviewed and exercised regularly with flight medicine personnel (HSI Guide). This is typically done quarterly. It is also very important to make sure equipment is operational and medical kits are current. Flight surgeons must participate in ALL medical evaluation flights and evaluate all chamber reactors (HSI Guide). Flight surgeons need to be the base experts in recognizing symptoms of, diagnosing and treating decompression sickness (DCS). Flight surgeons need to be aware of and coordinate with USAF approved hyperbaric treatment facilities in the local area. (AFI 48-112, 4.3 and HSI Guide). This means actually going to the hyperbaric treatment facilities, checking out the facility, capabilities, actually getting a copy of the Memorandum of Understanding (MOU), and updating phone numbers annually. On bases conducting hyperbaric support operations, no more than four flight surgeons holding an Aviation Position Identifier (API-5) slot may receive Hazardous Duty Incentive Pay (HDIP) for hyperbaric exposures. Waivers for additional personnel are sent thru MAJCOM SG and USAFSAM/FEH (previously known as the Davis Hyperbaric Laboratory) at Brooks AFB TX (AFI 48-112, 8.2.1).

2. Bases Without Hypo/Hyperbaric Chambers

It is very important that flight surgeons be knowledgeable in recognizing, diagnosing and treating DCS, especially since DCS probably will not be a common occurrence at bases without chambers. Some bases on coasts without chambers are exposed to numerous diving incidents. It is also very important to know where the nearest civilian hyperbaric treatment facilities are, in the event a military member complains of DCS symptoms and needs to be treated. There must be MOUs for smooth operations. It is also useful to know where the nearest hypobaric chambers are so that you know where to send the aviators that need their TARF or TTB Refresher training.

F. High Altitude Air Drop Mission Support (HAAMS)

Specially trained Aerospace Physiology Technicians or Aerospace Physiologists, collectively referred to as PTs support flight operations during which the aircraft will be unpressurized at altitudes above FL180. HAAMS missions include High Altitude/Low Opening (HALO), High Altitude/High Opening (HAHO) personnel and equipment drops, equipment testing and research, and Psychological Operations (PsyOps). HAAMS PT duties include assisting the loadmasters with management of flight personnel and their related personal equipment, monitoring and recording prebreathing times and exposure times at and/or above 10,000 ft, 18,000 ft, and peak altitude. PTs also monitor personal oxygen equipment (masks, regulators, oxygen source) to ensure it is functioning, and monitor aircrew and parachutists for signs of impairment resulting from hypoxia, hyperventilation or decompression sickness (DCS). SGP support to the PTs supporting HAAMS missions include medical (they are on flying status CLASS III physical), fiscal, and administrative supervision and other support as required. (AFI 11-409)

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Chapter 4. Air Crew Health

A. Introduction:

Maintaining aircrew health is a key element of the surgeon general's Total Force Protection Initiative and the SGP has been clearly identified as the one responsible for ensuring the human performance enhancement/sustainment for all aircrew and special operational duty personnel. (AFMS, Dec 02) Aerospace support functions exist to safely keep pilots and aircrew in the aircraft carrying out the mission of the USAF. Besides aircrew members themselves, no group takes a bigger chunk of the responsibility for aircrew health than do the flight surgeons. So, as the senior flight surgeon, aircrew health becomes your primary and most essential responsibility. (AFMS, Dec 02) This section will discuss specifically your in-garrison responsibilities, but they mirror your duties and responsibilities while deployed.

Probably the second most important, and closely related, aspect of aircrew health that flight docs have responsibility for is the health and well being of the flyers' families. The idealistic model of the flight doc taking care of all the family members has become fragmented if not abandoned altogether at some bases. The SGP must be sure his/her flight docs are keeping their fingers on the pulse of the flying units by ensuring that the families are receiving quality care, even if not via the FSO. The knowledge that the family members will be well cared for is essential for the psychological well being of the aircrew member when deployed far from home.

There are three major activities through which the SGP ensures the health of aircrew:

1. Maintaining a healthy and fit force (Healthy and Fit Force)
2. Prevention (Casualty Prevention)
3. Care and management of medical illness. (Casualty Care & Management)

B. Healthy and Fit Force

1. Maintaining Standards

The SGP is the medical standards expert in the wing. (HSI Guide EX.1.5.8) This means he/she is expected to keep the active-duty population medically ready and able to serve. Often, programs such as profiling, Medical Evaluation Board (MEB), Duties Not Including Flying (DNIF), waivers and the physical exam process are seen in a negative, punitive light. The SGP sets the tone and has the opportunity to portray them as key elements of a unified effort to keep the wing family healthy. It is always best to represent the work you and your aerospace medicine team do in a positive light. Putting a positive "spin" on them may not always seem easy. Even small things like reporting "Flyer availability" rather than "DNIF days" helps alter some of the negative thinking. Here, both relate the same information but "Flyer availability" sends the message that flight surgeons are keeping flyers flying, whereas "DNIF days" reinforces the perception that the flight surgeons job is to DNIF flyers.

The SGP needs to be aware of two general categories of flying class physicals.

a) Initial Flying Class PE's:

These are obviously the most rigid since certifying means that those coming into the field are fully qualified. The SGP needs to closely review all initial flying class PE's for quality, to be sure no disqualifying (DQ) conditions were missed, and to evaluate any DQ conditions for consideration of an initial flying class waiver. The latter is often not done, either because of a rigid "Stop as soon as a DQ condition is found" mentality and/or because it means extra work for the FSO. Keep in mind, however, this is a critical career decision affecting this individual... don't ignore or trivialize the effect it may have on his/her life goals. Also keep in mind that we need pilots and aircrew. If you think they'd do well and the DQ condition would not pose a significant risk, it would be worth the extra effort to try for an initial FC waiver.

Second, remember that you are reviewing this exam and signing off saying the exam is complete and correct. Your personal credibility is on the line, so you better check these closely. By the way, seeing recurrent mistakes on these high profile exams probably underlies a MUCH bigger problem in the FSO.

b) Recurrent Flying PE's:

Unlike initial exams, the flight docs complete these exams without the need for your review. Being in the clinic on a regular basis is an effective way to keep tabs on the quality of the process.

2. Profiling, Duty Restrictions and MEB's

These are considered flight medicine management issues. From a business perspective they represent product lines that can be looked at to quickly judge your team. Be advised that there are many time sensitive events that must occur with these programs such as monthly 4T profile review, completion of the MEB narrative, and completion of the Medical Board. A good manager will develop and track metrics that allow him/her to understand how the program is functioning. To be successful you need to understand them and track them closely. (AFI 48-123) (HSI Guide EX.1.3.2)

3. Population Health:

Few in the med group understand the needs of the line as well as you. Therefore, you are required by AFI to be a member of the MTF population health working group. You should use this opportunity to ensure the medics are delivering good individual medical readiness products and communicating effectively with the line. (AFPAM 44-155 2.2.1.4.3.4.)

4. Preventive Health Assessment (PHA):

The overarching purpose of the preventive health assessment is to ensure individual medical readiness for the wing and to communicate individual medical readiness status to line commanders. The PHA process has been incorporated into the Air Force culture since being introduced in 1997. It has gained acceptance and support by the line as an improved method to ensure a fit fighting force by focusing on age, gender, occupation, and behavioral risk factors to determine the scope of the assessment. A

poorly executed program will land more complaints on your desk than you'll have time to deal with! As such, make sure an understanding of this process is instilled in all staff members involved in the process.

As originally envisioned PHA was to be a "one stop shopping" process incorporating medical and dental exams, laboratory testing, health counseling and cycle ergometry. The major selling point for this to the line was a reduction in the number of non-illness related trips to a medical facility, which adversely impacted unit productivity. (USAF/CC, Nov 97) However, there is wide disparity among bases as to the level of integration of these annual requirements into the PHA visit. Some bases incorporate all annual exams into a single day while others continue to spread them out over the year. The dental exam is often the most difficult to integrate. Regardless of the level of integration of the PHA, each individual on an annual basis must meet all requirements.

The SGP needs to understand very clearly his/her role in the PHA process at their base. The PHA is an important product line of the MTF and the SGP is in a unique position to communicate the needs of the line to the other medics as they struggle to balance competing priorities--make the process work for them or for the line community they serve.

A new program has been added to the original PHA program. The PHA/Individual Medical Readiness, or "PIMR" program utilizes data generated during a PHA as well as medical information from other sources such as immunizations and dental, and tracks it in one location. This provides medics and LAF commanders the ability to quickly assess the medical readiness status of any individual or unit at any time but should be tracked at least monthly. (HSI Guide EX.1.3.3) Policy on the scope and frequency of the PIMR review and PHA process is under ongoing development and should be reviewed frequently. "Expired" or overdue requirements don't necessarily require the individual returning to the clinic whenever they become due so long as PIMR data is reviewed on every occasion of service. Taking care of requirements for readiness are much easier to manage if done as notices instead of waiting until the next scheduled PHA to do a myriad of tasks that have come due in the last cycle. Remember that flyers and special operators that are deployed or unavailable due to remote TDY operations have a standing extension of up to six months for their PHA. (USAF/SG, Oct and Dec 01, and April 02)

As the SGP, you are in the best position to influence the local PHA/PIMR process to ensure it accomplishes the readiness requirements while mitigating unnecessary visits to your medical group.

a) Overview of Roles/Responsibilities

MTF/CC: The medical commander has overall responsibility for ensuring the necessary personnel and resources are available to complete the PHA/PIMR process.

MTF/SGP: Directs all aircrew and special operational duty personnel health activities. Ensures that the flight medicine team is properly trained and efficient

at completing annual PHAs on all assigned personnel. Provides occupational medicine training for Primary Care Clinic and Family Practice Clinic providers. As head of the Occupational Health Working Group (OHWG), the SGP must ensure that occupational exams are being properly completed throughout the MTF. Monitors overall MTF process and progress with information provided by Force Health Protection. Previously, Physical Exams Section (PES) carried out the core of the paraprofessional requirements from within the flight medicine flight. However with the 4F/4N/4E merger and realignment in Nov 02 PES no longer exists and its PHA responsibilities shifted to each individual PCM team. Guidance from AFMOA now directs that Force Health Protection primarily monitor the MTF PHA statistics. With the process now spread out among so many elements of the medical group it becomes more incumbent on the executive committee to provide clear leadership to the program. Of those on the executive committee, the SGP is in an excellent position to champion PIMR. (USAF/SG Oct 02)

C. Casualty Prevention

1. Deployment/Travel Medicine (med intel, vacc, prophyl meds):

You will be considered the travel medicine consultant for the base and should work closely with your local public health office to provide accurate travel and deployment information. The key is to be sure the credibility of the flight docs is high so that when they brief recommendations; there is a higher chance they will be followed.

2. Safety Briefings:

Delivering safety and mishap prevention briefings at both squadron and wing levels is an excellent opportunity to educate the community on important safety issues while getting valuable face time with the base population. Never pass up an opportunity to brief. All flight surgeons, including SME's are expected to actively participate in flight safety and mishap prevention briefings, including ground support personnel. It is best to coordinate these activities with the wing safety office and it is important that the briefings are documented for the HSI inspectors. HSI Guide, EX 1.5.5)

3. Operational Support Facility Visits:

Besides occupational shop visits, flight surgeons are also required to visit important operational support facilities such as life support facilities, RAPCON, control tower, fire department. These activities are often the first to be sacrificed in time of low manning or high ops tempo. Nevertheless, each is required and must remain viable in spite of competing demands. Again, make sure you document these visits. (HSI guide, EX 1.5.5)

D. Casualty Care and Management

1. Accesses and Continuity of Care:

Aircrew and special duty operators expect good medical care from their flight surgeons. Therefore, the SGP must remember and must instill his/her flight surgeons the old adage to "be a good doc first". This includes knowing one's limitations and referring to specialty care when appropriate. Through peer review, case discussions

and 1041/waiver log reviews the SGP should evaluate the appropriateness of consults. Watch carefully that none of the flight docs stray down the path of wanting so badly to be a “buddy” to his flyers that he ignores standards and/or policies in order to not DNIF a flyer who should be grounded. This behavior may engender some immediate gratitude for the flight doc, but invariably leads to degradation in the respect by the flying unit. Be careful for the other extreme behavior where a flight doc may develop the reputation of DNIF’ing everything that walks into his office. It is the SGP’s responsibility to set the tone and teach the flight surgeons that they will gain respect by doing the right thing – by getting involved, showing genuine concern, being the patient’s advocate, and by emphasizing that the flight docs job is to “get ‘em back in the cockpit as soon as possible and as soon as safe”.

Aerospace Medicine is more than just a primary care specialty. A great deal of the flight surgeons time is spent in preventive and occupational medicine activities. Primary care represents the first point of contact within the health care system whereas preventive medicine care requires going out to the population to reduce their need to access the health care system. Good preventive medicine requires that you leave the clinic and go out to the community. Few people in the medical world understand the scope of the flight surgeon’s duties and responsibilities beyond providing direct patient care to an empanelled population. As SGP, you are responsible for the primary care and operational (preventive) care of the Air Force community.

Flight surgeons must maintain a balance between direct patient care and non-patient care activities such as flight safety, environmental and public health, human performance enhancement, and occupational health. (HSI Guide EX.1.5.5) Though these activity do not generate “bean counts”, half of a flight surgeons time should be spent on these non-clinical activities. “All flight surgeons are expected to have a direct interface with operational organizations in these activities during their non-clinical periods.” (AFMOA, Apr 01) Additionally, the health services inspection (HSI) will be looking for documentation of these activities. (HSI Guide EX.1.5.5) The recently published Mission Essential Lists/Activities for Line Support (METALS) is an excellent place to start when identifying those tasks and activities that should form the core of your practice. (AFMOA, Feb 03)

2. Flight Medicine Group Practice:

All flight surgeons on base, both Medical Treatment Facility (MTF) assigned and Squadron Medical Element (SME) assigned are included in the Flight Medicine Group Practice. This facilitates managing of schedules. It also allows the SGP to more effectively carry out his responsibility to monitor the job performance of all SME flight surgeons and technicians when not deployed. (AFI 48-149, 28 Feb 03)

The MAPPG process drives flight surgeon manning, and each MTF is allotted flight surgeons based on the number of flying personnel (personnel requiring a 1042 to do their job) and their families assigned to the base with at least one flight surgeon assigned per 750 patients. With few exceptions, each base has at least two flight surgeons. Flying personnel and their families are enrolled to the flight medicine group practice. Flight Surgeon Clinic manning is driven by the number of flying

personnel on the base and not on the actual clinic enrollment. In other words, if you have enrolled all eligible flying personnel and their families to the flight medicine clinic, and the ratio of patients to MTF assigned FS is less than 750 to one, you will not lose providers based on this situation. Additionally, if you increase your enrollment above a ratio of 750 to one, your manning will not increase. Flight surgeon clinic manning is based solely on the number of flying personnel and their families assigned to your base. Non-MTF flight surgeons (SME's) are assigned to your base based on the needs of the line. They are not included in the MTF manning calculations.

The SME's empanel their respective squadrons, and the balance of the flying personnel and their families are empanelled to the MTF assigned flight surgeons. This may result in each flight surgeon having less than 750 empanelled patients depending on the number of assigned SME's. (AFMOA, Apr 01)

Since the SME's are not included in the MTF manning calculations and empanel their own respective squadrons, a situation can result, when the SME's are in garrison, where the average provider workload in the flight medicine clinic is lowered. As SGP, you need to find creative ways to utilize the additional manning when the SME's are in garrison. It is helpful to look for ways to assist the other clinics in the MTF while maximizing the clinical training opportunities for your flight docs. As an example you could: open up some acute appointments for non-empanelled patients, work some emergency department shifts, allow specialty trained flight docs to help out in the respective specialty clinics, or you could judiciously empanel additional non-flying, but aerospace related personnel to the FS clinic. Be very careful that you do not overstep your capabilities since the SME's are line assets and are subject to rapid deployment. Additionally, do not allow your "good will" in helping out other clinics in the MTF interfere with the important non-clinical activities that the flight surgeons are expected to be participating in one-half of their time.

A common complaint you will experience from the line community relates to flight medicine clinic access. Your success, in the eyes of the line, is defined by how easily aviators and their families can access your expertise. While access is sometimes best accomplished at the squadron, the family members normally see you in the clinic. You must clearly understand how your appointment system works. Aircrew are accustomed to having direct access to the flight doc for their medical needs. Sometimes, a central appointment system adds an additional step(s) in the way that they access the flight surgeon. This can be seen by the aircrew as a barrier to access or degradation in care. Be very thoughtful about where and how appointments are managed. You may consider a mix of central and local appointment scheduling to achieve the best level of care for your patients.

3. Case Management:

As SGP, you own aircrew health. If your group does any one thing well it should be to get flyers through the healthcare system and safely back to the squadron as quickly and smoothly as possible. If you have a clinic nurse, she/he should be utilized to provide case management. If you don't have one—get one. The flyers you see may fall into one or more of the following categories:

b) Inprocessing:

All flyers should inprocess to the flight medicine clinic upon arriving at the base. This medical clearance should be completed in a timely fashion so as not to delay the flyers first sortie. This is your only opportunity to make a first impression on incoming flyers. Their experience during this process will set the stage for all future interactions. You may want to spend some time with your young flight surgeons reinforcing the importance of this visit. You should be prepared to handle incomplete or ignored waivers or inappropriate out-processing from the previous base. In addition, required ground testing of operational medications can be done during this time.

c) DNIF for acute problem:

The aeromedical disposition of all DNIF flyers should be managed through the 1041 log. The element leader and NCO of flight medicine, the waiver file monitor and all assigned flight surgeons should review this log weekly to identify those individuals who are on an unwarranted extended grounding and to update the diagnosis and duration of DNIF on those flyers whose medical status has changed. (AFI 48-123 9.1.9, HSI Guide EX.1.5.2)

d) Consults outside the clinic:

When a patient is sent to another provider for consultation they need to be actively managed through flight medicine. Active management means that the flight surgeon following the case knows the status of the consult at all times, speaks with the consultant when appropriate, and receives timely feedback from the consultant. It is poor form to have the flyer call asking about the results from his consult when the flight surgeon isn't even aware that the consultant saw the patient. Equally egregious is to have the consultant give an aeromedical opinion. Flight surgeons should educate the consultants regarding the type of information that should be included in the report in order for flight surgeons to make a proper aeromedical disposition. (HSI Guide Element 16.2.2.3)

Tricare network and mental health consults require particular vigilance. Generally the details of these visits are not recorded in the outpatient medical record but are maintained in a separate record. If at all possible, this record should be reviewed by the flight surgeon prior to making an aeromedical disposition. At the very least, a consultation report must be reviewed before returning a member to flight status.

e) Waivers

All patients with a waiver should be carefully managed to assure compliance with all interim waiver requirements. These flyers may need to be seen earlier for their PHA in order to complete the waiver renewal process prior to expiration of their medical clearance at the end of their birth month. ALL aeromedical summaries should be reviewed by the SGP for accuracy, completeness and soundness before leaving the clinic. If a flyer requires disqualification from flying status or an extended DNIF, ensure that the flyer's squadron leadership is involved in the process.

f) General Officers:

General officers are provided the same high level of care that is provided to all other patients seen in the flight surgeon's clinic. Special attention is given to scheduling to accommodate the busy schedule of the general officer. However, there are some differences that you should know about. The flight medicine section is required to notify their MAJCOM/SG by telephone during duty hours when a general officer or wing commander is grounded or when an aircrew or special operational duty member dies. Reports will include: date of DNIF (as applicable), aeronautical rating, Aviation Service Code (ASC) with AFSC, duty title and organization, diagnosis(es), estimated duration of DNIF (as applicable), and name and duty phone of attending flight surgeon. (AFI 48-123 9.1.10) Don't forget your own chain of command.

4. Other Programs

a. Soft Contact Lens Program:

This is an aerospace medicine program that requires close scrutiny by the SGP. (HSI Guide EX.1.5.4) An aerospace oriented optometrist is your best ally in assuring a tight program. It is imperative that you track exam completion rates and review them during AMC. Note that the approved soft contact lens is upgraded on a regular basis. (AFMOA, Nov 02)

b. Aircrew Spectacles:

Spectacles worn in flight by aircrew must be tested and approved. (AFMOA, Nov 01)

c. Photorefractive Keratotomy:

The rules of engagement for this program is that flyers should have their questions answered at the lowest possible level. Flyers are directed to contact their base flight surgeon or optometrist for information regarding this program. There are very specific guidelines governing this program and the granting of s/p PRK waivers that should be understood and followed to the letter. (AFMOA guidance)

d. Personnel Reliability Program (PRP):

At some bases this is a very high visibility program for the wing commander and its failure can cost him a command. Do not fail. Regardless of who manages the program, aerospace medicine needs to be very familiar with the local procedures and review the PRP-allowed medication list. Careful tracking of PRP members seen by Tricare providers requires a higher level of vigilance. (AFMOA, Aug 96)

e. Night Vision Training (NVG):

Squadrons flying with NVG's should have a robust training program that should have input from the flight surgeon. (AFI 11-202 1.4.2.4.4.) Base flight surgeons should be familiar with how NVG's work, limitation of the goggles, how to

focus the goggles and requirements for an eye lane both at home and in a deployed setting. For further information you may contact AFRL/HEA, 6030 S. Kent Street, Mesa, AZ 85212-6061, (480) 988-6561, DSN 474-6120 / 6111, william.berkley@williams.af.mil or elizabeth.martin@williams.af.mil

f. Go/No go Pills:

These may not be used without approval from MAJCOM. Be familiar with your MAJCOM policy on their use in order to be prepared for short or no-notice deployments when things get hectic. These medications should only be issued when required for a specific sortie and any unused pills are to be returned immediately after the sortie. Be aware that go/no-go pill use while deployed is still governed by the policy of the parent command, not the deployed command. (AFMOA, Sep 2001, Oct 2001).

g. HUD Tape Review:

At a location with high performance aircraft, HUD tape review by a flight surgeon is an essential activity and should occur in the context of a clear G-Risk management program in concert with flight commanders, life support and wing physiologist, if available. An excellent example of a successful program is the G-Risk Indicator Management (GRIM) program at Luke AFB. (Luke AFBI 11-401) The key reference for flight surgeons working in a G-risk environment is AFPAM 11-419 G-Awareness for Aircrew.

h. Laser Exposure:

The risk of laser exposure and subsequent retinal damage varies by theater. Guidance has been developed to assist the flight surgeon evaluate an aircrew member who complains about a laser exposure. (AFMOA, Jul 02)

i. Use of Cipro in Aircrew:

With the concern about biological weapons and exposure for aircrew ground testing is now required for aircrew. There is written guidance on how to assist an aircrew member post-anthrax exposure. (USAF/SG, 26 Oct 01)

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Chapter 5. Command and Control of Team Aerospace

A. Professional Leadership of Team Aerospace

Air Force Instruction (AFI) 48-101 (1994) states the military treatment facility (MTF) commander is responsible for the execution of the of Team Aerospace program locally. The SGP is an essential member of the medical group executive team, and works through the chain of command to maximize the delivery of Team Aerospace for the base. C³I is an acronym that captures what the SGP does, and is critical to the effective mission execution of Team Aerospace. C³I has been defined as command, control, communication and intelligence. The Team Aerospace mission is a very information or intelligence intense operation. A significant product of the Team Aerospace mission is key, high quality information to the operational commanders to maintain and enhance the combat effectiveness of their assets. The information must be high quality to be of value. Thus meeting the minimal standard required, and not seeking excellence, degrades the mission. Integration of the major programs of Team Aerospace, and team work is key to accomplishing excellence in the mission. The SGP must understand all aspects of the Team Aerospace mission, and have good situational awareness, to be able provide the oversight, encourage integration, and team building to maximize the effectiveness of the mission, Professional leadership requires the SGP demonstrate leadership by example, to educate and communicate effectively. He must be a professional resource and educator in all areas of the mission.

The local Team Aerospace Mission needs to be clearly identified and stated in a concise understandable mission statement for the members of the team. Members of the team need to understand this mission and embrace it. A clear mission is of central importance and a fundamental building block to the organization and operation of Team Aerospace. Mission is always central in military thinking, and it is the accomplishment of many integrated missions that make it possible to accomplish the larger grand strategy. Using the mission statement in making decisions affecting the operation of Team Aerospace will circumvent the need for micromanagement. As the members understand the mission, they will be able to make sound decisions at lower levels, consistent with mission accomplishment. Education and re enforcement of the local mission statement, and how it may impact the larger strategy, are key elements of Team Aerospace Leadership. This is critical part of the communication in the C³I complex.

Command and control are executed through the chain of command, with the first point of contact often being the squadron commander. On occasion, the SGP role may be "dual-hatted" in the chain of command (group/squadron commander). This can be a difficult tasking for that individual, as issues of command can be consuming, and professional leadership if done well, is a huge tasking and requires much time. Often, the SGP is dual-hatted as the flight medicine commander, or optimally could be an independent position. Doing the SGP well is a full time job. Professional leadership involves advising the command structure on the quality, and professional or technical aspects of the mission. This is often done formally through a committee structure, and the SGP often has significant involvement in these key committees (i.e. the chairperson). The SGP and SGH (Chief, Professional Services) are equals in stature and position within the

medical group. They should cooperate extensively on the overall local medical mission and on the executive committee. The SGH and SGP should have large bandwidth of communication. Team Aerospace is always executed better with a high level of cooperation between the SGP and SGH.

Major committees of Team Aerospace are the Aeromedical Council (or it's equivalent) and it's sub committee's. Some sub committees are required such as the Occupational Health Working Group, and others may vary depending on the local mission. Committees are a formal written form of communication with the local command structure, but are not the major mechanism of communication within the elements of the Team Aerospace Mission. Committees have no authority, but recommend to the chain of command, that has authority, to act on issues of manpower, allocation of resources, prioritization of competing missions, etc. Committees document the deliberation of the team and the recommendation to the command structure, on accomplishment of the local mission, and further challenges and new initiatives. Minutes of Committees should be concise and readable by the average team member. Committees are very expensive events; they occupy the most experienced members of Team Aerospace and key leadership and occupy time other productive work could be accomplished. When salaries of those attending a meeting are considered, committees frequently cost thousands of dollars per hour to operate! Committees must be efficient, cost effective (brief) and focused. A working and effective committee structure is key to a successful Team Aerospace. It requires a large amount of effort on the SGP's part, and preparation for these meetings. Agendas need to be prepared, issues staffed and recommendations formulated prior to the meeting. Committees held without the proper preparation are not of much value. In summary, committee's and their role to make formal recommendations to the command structure is a major part of the professional leadership equation for the SGP.

Official Committee meetings should be boring. Nothing said should be surprising to anyone in attendance; issues on the agenda should have been fully worked prior to the meeting. Surprises, "pop ups" should be minimal in committees. Effective committee meetings are not the place where "brainstorming", "free association" or introductory "lets throw it out on the table" sessions occur. Group behavior and other large group interpersonal dynamics make committees an ineffective venue for such informal brainstorming activities and accomplishing the important goals of a formal meeting. Modern technology allows much efficiency in this committee process as compared to previous times. E-mail and shared documents on networks should be used to their maximum effectiveness and efficiency. A large amount of information needs to be covered, but the attention span of most people is only about one hour. Effective and useful committees require everyone to do their homework prior to the meeting. Committee minutes should reflect the status of the overall program, accomplished workload, workload pending, items needing further evaluation (findings from shop visits etc.), and elevation of matters to other medical group and wing committees. Major Dan Geary, USAF, MSC, former 35 Medical Support Squadron Commander, referred to this concept as a "Dash Board" or the critical metrics or measurements of the mission status. In summary, committees are a function to document the current and historical status of the program, work new initiatives, and report significant findings to the chain of command.

Metrics are required data points needed to access the production and quality of the Team Aerospace program. Not all processes are amenable to metrics. Metrics should provide information useful in managing the program. Processes and programs for which metrics make sense can be determined by reviewing HSI guidelines, AFIs, OIs, and certain key local items of interest. Metrics need to be collected and reported in the same manner every time to be useful. Often an OI covering metric preparation and reporting is a good idea to standardize this process. Metrics will show the "Dash Board" or status of programs and give useful information on improving the program.

Standardization of procedures is required for optimization of mission accomplishment. An AFI or OI (Operating Instruction) are formal written mechanisms of communication. AFIs accomplish this for the larger Air Force perspective, but more precise guidance is often needed at the local level. Operating Instructions (OIs) are used to accomplish this formal method of communication at various levels. A particular topic may start at Air Force level, then go to Major Command (MAJCOM), Wing, Medical Group, Squadron, and eventually a particular flight. At the lower level, they become more specific and also can be changed more quickly. A squadron OI maybe changed in days, while an AFI may take years. The higher the level of the instruction, the more difficult and time-consuming changes are to accomplish. A change of lower level instructions may be fairly easy to accomplish. The members need to be aware of the OIs and use them. Documentation that all members have read and understand the OIs is needed in organization, and then the OIs are enforceable. OIs allow for a task to be done in similar standardized fashion every time. Data can then be collected, analyzed, and the process modified to produce the most effective method or procedure to accomplish the task. If the task is done differently every time, no real process improvement can happen. Written communication is powerful, it tells members clearly what you mean. Organizations that run well need to be able to move past the "oral tradition" where things are passed on by word of mouth, and vary frequently in their quality, method of accomplishment, and outcome.

Timely communication is needed in this information intense operation. Committees could not possibly bare all the needed communication for daily operations. Most of the communication needed within Team Aerospace occurs in small informal groups, outside of the formal committee meetings, and is driven by the SGP participation in and assessment of the quality of the mission. The SGP needs to understand all major programs of Team Aerospace, and directly participate in key portions of these programs. With the information gained from shop visits, food safety visits, TB prevention programs, employee health, waiver program, patient care in flight medicine, etc, the SGP confirms their high quality and excellence or identifies areas within these programs for improvement and by working with the other Team Aerospace professionals, often across organizational lines, improves the program. Professional knowledge is the key to successfully meeting this objective. The ability of the SGP to function in this is based the view of individuals he works with, and their expectation that the SGPs input will improve the program. It is the power of the ideas, and high quality professional knowledge that makes the professional leadership of the SGP successful. Working in small groups at low levels in the organization, using education, mentoring, and communication skills the SGP improves the program.

In summary, all elements of C³I are utilized by the SGP to provide professional leadership for Team Aerospace. Committee recommendations that are sent to the chain of command are the Command and Control activity of the SGP, while small groups discussions, OIs, direct participation in the processes of Team Aerospace all are communication activities as well as methods of observing mission accomplishment.

B. SGP Leadership in support of the Installation Mission

1. The SGP as Installation Aerospace Medical Leader

- a. The SGP is the Team Aerospace professional leader. You will be the conductor of an orchestra composed of the military and civilian personnel who run Flight Medicine, Bioenvironmental Engineering, Public Health, Medical Readiness, Air Evacuation, Occupational Medicine, and Audiology, Aeromedical Staging Facility, and other operations depending upon the unit's size and mission. It's critical to the mission's success that you have a clear understanding of each section's personnel and their unique specialty contribution. They are the functional experts – but they are expecting you to lead them as an effective team.
- b. The SGP is familiar with the unique aeromedical needs of aircrews and special operational duty personnel – and their families. Time spent flying as a fellow aircrew member and rated officer – and getting to know their families - is essential and pays obvious dividends to your credibility and effectiveness. Familiarity with the unique demands and stresses that special operators face can enhance their mission effectiveness. Again, never ignore the special stresses and difficulties their families may be facing.
- c. The SGP makes valuable contributions ensuring that flying/special operations personnel receive effective training in such topics as high altitude physiology/high-G environment/ IFR Spatial Disorientation Training etc.
- d. The SGP champions preventive medicine by effective oversight of the disease & injury prevention missions of Public Health, Bioenvironmental Engineering, Health Promotions, Flight Medicine and Occupational Medicine.
- e. The SGP understands the environmental concerns of both those who live and work on base, and those who live in adjacent communities. This will require an understanding of the federal, military, state and local environmental regulations that impact the installation. If the installation has a history of negative publicity with regards to the environment, your job will be all the more difficult. Gaining the trust and respect of all concerned is crucial to your success.
- f. The SGP supports all facets of the installation Health Promotion activities. As a medical authority, your views on pertinent issues will be respected and sought after. Your personal participation in various Health Promotion activities will give greater credibility to your words.
- g. The SGP keeps Team Aerospace on track by utilizing the Aeromedical Council (AMC) to track the contribution of each constituent function of Team Aerospace.

- h. The SGP provides aerospace medical review and oversight to host tenant agreements, memoranda of understanding, inter-service support agreements, and so forth, to ensure these products make good aeromedical sense.

2. Information Management and the SGP

This section deals with the leadership and management functions relating to information management that are the responsibility of the SGP. Successful leaders are able to develop a vision of what his organization needs to accomplish, marshal the resources available to him, focus and coordinate their efforts onto his vision, ensure necessary task accomplishment, then measure and communicate the outcomes to other interested parties. The key point is that to be an effective SGP you must get other people to perform work, oversee and measure their progress, and report on the results- either to your clinic, flight, squadron, group, higher headquarters, or oversight agencies (JCAHO and/or AFIA/SG). Some useful tools available to you can be grouped into two general categories: Information Resources and Coordination Resources.

Information Resources include data sources on what to do, and how to do it. The former category is larger than the latter; if you are creative, however, you can find informal sources of data on how to accomplish tasks and implement programs. Grouped in aggregate, you can develop an information plan that includes important informative resources that can simplify your life.

- a. The greatest amount of information can be found in written media- found on your office shelf or on web pages. Included in this category are Air Force Instructions (**AFI**) and Air Force Policy Directive (**AFPD**). Generally a given AFI will outline responsibilities for implementation of programs discussed in a certain reference AFPAM. Key documents in this family are:
 - o AFPD 48-1 *Aerospace Medical Program*
 - o AFI 48-101 *Aerospace Medical Operations*
 - o AFI 48-123 *Medical Examinations and Standards*
 - o AFPAM 91-211 *USAF Guide to Aviation Safety Investigation*
 - o AFI 44-119 *Clinical Performance Improvement*
 - o JCAHO and Health Services Inspection Guides
- b. The next group includes **policy letters** (PL) generated by higher headquarters like Air Force Medical Operations Agency (AFMOA) or a MAJCOM directorate (ex: ACC/SGPA, PACAF/SG, etc.). Policy letters are generally of limited scope, and are technically in effect for 90 days or less, however, some tend to linger longer. PL generally cover implementation guidance for specific programs or policies that are not adequately addressed in AFI documents. It is critical to keep two binders on your shelf: current policy letters, and rescinded or expired policy letters.
- c. The next group includes **operating instructions** (OI) that are generated either by a higher headquarters or locally. OI are numbered and generally outline local plans to implement directives found in AFI, AFPAM, or other governing documents. Another type of document that describes local

implementation plans is **medical group instructions (MDGI)**. Some critical documents deal with planning. Your medical group might be tasked with specific tasks or missions under a numbered operations plan that is secured by the plans and operations section at wing intelligence. You will need to have a security clearance to read these plans. Examples of items in your MDGI/OI binder might include:

- Mishap Response OI
- Care in the Flight Medicine Clinic OI
- Grounding Management and Care Outside the FSO OI
- Personnel Reliability Program OI
- Medical Group Committees and Functions MDGI
- Patient Information Protection OI

Coordination Resources are any mechanism designed to orchestrate activities that promote mission accomplishment or communicate requirements. These activities can be formal or informal in nature. Most of these activities occur in the form of committee or working group meetings. They can occur at the clinic, flight, squadron, group, or wing levels.

Most committees involve review of **metrics**, or measures of merit or success. Metrics should be numerical, reproducible representations of how your programs are functioning. For example, the occupational health examination compliance and completion rates are good measures of how well your occupational health program is being administered. However, reporting raw numbers of shop visits conducted provides little useful information about your occupational health program is running other than to indicate that your flight surgeons are getting out of the office to perform non-clinical activities. Metrics can easily be displayed in a graphical display on a single slide. If your metric slides are well designed, they will be self-explanatory.

3. Aerospace Medicine Committee Meetings

The following committees meet within the aerospace medicine community:

- a. **Occupational Health Working Group** is held monthly and chaired by the Occupational Medicine Consultant, often the SGP, or another flight surgeon experienced in occupational health. Other attendees include the public health officer, the bioenvironmental engineer, technicians, and a recorder. This meeting coordinates occupational health monitoring efforts, and makes recommendations to the Aerospace Medicine Council.
- b. **Aerospace Medicine Council** meets monthly and is traditionally chaired by the SGP. This meeting coordinates all aerospace medicine activities, and provides input to the medical group executive committee on key operational or occupational issues of medical relevance.

4. Group Committee Meetings with SGP Attendance

The following committees meet at the group level, and require representation and participation from the SGP:

- a. **Executive Council** is chaired by the medical group commander (MDG/CC), and meets monthly. The Executive Council includes all squadron commanders, corps chiefs, and the senior enlisted advisor. This is considered the governing body of the organization, and all critical decisions about policy and resources are made here.
- b. **Executive Committee of the Medical Staff** meets monthly and is chaired by the SGH. You will attend this meeting as a department chair and senior aerospace physician with the chairs of the medicine, surgery, maternal-child health, and other physician-led clinical departments. This meeting coordinates medical staff issues as credentialing (you need to be a member of the Credentials Function as well), medical quality and standard of care, and pharmacy and therapeutics.
- c. **Medical Readiness Staff Function** is chaired by the MDG/CC, and reviews readiness and training issues for the group. Since you are the operational medicine consultant to the MDG/CC you need to be highly conversant on every issue discussed here. Other participants include the squadron commanders, the medical readiness staff, medical logistics chief, and others by invitation.
- d. **Population Health Function** meets either monthly or quarterly based on the needs of the medical group. At many bases this meeting is chaired by the SGP because of the preventive and public health issues addressed here. Others participating are the SGH or his designee, nursing representative, public health, HAWC staff, and others.
- e. **Medical Staff Function** meets monthly and is chaired by the SGH. This is the meeting where all credentialed providers meet to coordinate standards of care, receive informational briefings, and facilitate medical staff input into the governance of the facility.
- f. Other functions and committees that you may be asked to participate in vary from facility to facility, and may include Pharmacy and Therapeutics, Credentials, Primary Care, Family Advocacy, or others. Participation in some of these functions should be delegated to your junior flight surgeons to give them experience in the committee process.

5. Base or Wing level functions that require SGP participation:

- a. **Health Promotion Working Group** is a base-level function chaired by the wing vice-commander, and managed by the HAWC OIC. This meeting is convened quarterly, and has representation from all of the wing “caring” organizations: legal, chaplain, mental health, family advocacy, services, and community and line squadron representatives. This function can be used to improve health and wellness in your community; you will need to bring information regarding community needs for action by the various agencies there.
- b. **AF Occupational Safety and Health Working Group** is chaired by the wing vice-commander, and meets quarterly. Other key players include wing safety, public health, bioenvironmental engineering, civil engineers, maintenance, and other representatives from Operations, Support, and

Logistics Groups. Here information regarding occupational health, environmental protection, and worker's safety are discussed.

- c. **Wing Flight Safety Meeting** is chaired by the wing commander, and conducted by either the chief of safety or the Operations Group Commander. All flight personnel, flight safety, meteorology, air traffic control, and flight surgeons generally attend this quarterly meeting. At each of these meetings there should be a briefing presented by a flight surgeon on safety or human factors.

C. Full Spectrum Threat Response (Formerly Battle Staff & Survival Recovery Center)

Introduction

The Air Force has had several programs at the installation level that are responsible for disaster preparedness planning as it relates to major accidents, natural and man-made disasters, and enemy action. These programs require support from agencies and organizations base-wide. Air Force instructions on these programs are not directive and so local installations often have responsibility for creating installation-specific operating instructions and policies. This places the onus on the SGP to become familiar with their installation's specific programs.

1. Battle Staff

The Battle Staff is formed to plan operations and direct forces in response to contingencies and crises, develop courses of action (COAs), and execute the installation commander's directives. The core of the battle staff is comprised of the installation's subordinate operational group commanders. They are assisted by an advisory team representing key base functions such as information technology, security forces, civil engineering, and logistics. The Battle Staff also has an arsenal of on-call members from base agencies such as public affairs, the staff judge advocate, medical, intelligence and others to give the decision-making body more capability, as it is needed. The Battle Staff relies on the Survival Recovery Center (SRC) to handle the immediate crisis while the Battle Staff concentrates on heading off potential problems that could hinder a swift, successful response, as well as look for ways to assist the SRC. The Battle Staff's main role is to methodically steer the installation's response in the right direction. The Battle Staff also allows the senior leadership to speak with one voice by providing a single information flow that works both up and down the chain through control centers.

2. Crisis Action Team (CAT)

A CAT is a limited staff formed when the crisis is narrower in scope and resolution does not require formation of the entire battle staff.

3. Survival Recovery Center (SRC)

The SRC is the command and control element that directs and monitors the installation's actions before, during and after a contingency. The SRC gathers information, directs, and monitors execution of the installation NBCC defense survivability, recovery, and sustainment operations. The SRC collects, analyzes, prioritizes, displays, and reports information on the status of the base. The SRC objective is to concentrate resources and expertise at the right place and at the right

time to implement the commander's direction. Although superseded by newer instructions, AFI 32-4001, *Disaster Preparedness Planning and Operations*, provides a concise listing of the recommended composition and member responsibilities. The support group commander, or equivalent, normally serves as commander in the SRC. SRC staff members are from various base agencies and used to provide functional area expertise. They also maintain contact with their unit control centers (UCC).

A. Commander	<p>The SRC commander will:</p> <ul style="list-style-type: none"> • Direct execution of survival measures • Coordinate priorities with other Battle Staff personnel • Monitor accomplishment of survival actions <p>The commander receives inputs from base control centers via SRC representatives and reports survivability status to the Battle Staff.</p>
B. Members	Common members and their responsibilities include:
1) Civil engineer	The CE representative exercises operational control of damage assessment teams (DAT) and response teams (DARTs), rapid runway repair (RRR) teams, bomb removal teams, facility repair, and CE resources through the damage control center.
2) CE readiness	<p>The CE readiness representative often oversees activation of the SRC. The readiness chief advises the SRC staff on:</p> <ul style="list-style-type: none"> • NBC and conventional hazards • Pre-, trans-, and post-attack actions for base populace • Mission oriented protective posture levels • Shelter and contamination control operations • CCD measures taken and possible expedient measures
3) EOD	The CE EOD representative works closely with damage assessment teams (DATs), manages standoff munitions disruption teams, unexploded ordnance disposal teams, munitions clearance and bomb removal teams, and other EOD assets. The EOD representative will brief the SRC staff on hazards, priorities, and options.
4) Fire department	The Fire representative exercises operational control over crash, fire, and rescue assets through the fire control center. They provide the SRC staff with status on critical crash, fire, rescue equipment and fire fighting operations, and fire fighting priorities and options.
5) Security police	The Security representative coordinates between the SRC, base defense operations center and AF office of special investigation for installation active defense issues.
6) Medical	The Medical representative performs liaison between the SRC and medical treatment facility. This includes advising the SRC staff on casualty collection points, chemical agent pretreatment drugs, aeromedical evacuations, ambulatory evacuations, heat stress, and medical effects of NBC contamination.
7) Personnel	The Personnel representative exercises control over the base manpower pool. The personnel representative coordinates with medical and mortuary agencies to reassign and backfill personnel shortages, prepares personnel strength reports, and initiates PERSCO or (Personnel Support for Contingency Operations) casualty notification procedures.
8) Communications	The Communications representative manages command, control, communications, and computer (C4) assets and repair teams through the communications support center. The comm representative assesses damage to C4 systems, provides status of capabilities to the SRC, and coordinates repairs.
9) Transportation	The Transportation representative manages transportation resources, prioritizes and ensures expedient repairs to vehicles and specialized equipment, and advises the SRC staff on critical transportation assets.
10) Augmentees	The SRC commander may augment the staff from existing base-wide resources.

4. Disaster Response Force:

Very recent Air Force guidance has integrated the Battle Staff and SRC into a larger **Disaster Response Force (DRF)** as part of the **Full Spectrum Threat Response (FSTR)** program. The FSTR program represents the most current approach to developing an integrated “all hazard” response concept of operations (CONOPS). This program addresses activities that support the full spectrum of physical threats to include the following: major accidents; hazardous materials; terrorist use of Weapons of Mass Destruction (WMD) involving the use of Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (CBRNE) material; natural disasters; humanitarian actions; and contingency/wartime enemy attack with nuclear, biological, chemical and conventional (NBCC) weapons. The DRF is charged with responding to FSTR incidents. The DRF is composed of the Battle Staff and Survival Recovery Center (SRC), Disaster Control Group (DCG), Unit Control Centers (UCC), support and recovery teams and emergency services (to include Fire, Medical and Security Forces). The emergency services responders integrate the incident command system (ICS) to the maximum extent possible within the framework of the overall response effort for major accidents, natural disasters and terrorist use of WMD. A unique feature of the FSTR program is that, unlike previous disaster response programs, it has a significant preventive medicine-like component. In the roles and responsibilities outlined in the appendix of AFI 10-2501, *Full Spectrum Threat Response (FSTR) Planning and Operations*, members of the DRF have ongoing “pre-contingency” responsibilities that focus specifically on prevention and/or surveillance.

a. Overview of Roles/Responsibilities

- The composition of the DRF and the responsibility of the members are delineated in significant detail in AFI 10-2501, *Full Spectrum Threat Response (FSTR) Planning and Operations*. cursory reviews of the medical functional support responsibilities are discussed here and it is strongly recommended that the reader refer to the AFI for more specific details.
- MTF/CC: Provides emergency medical care in response to a FSTR event to include commanding and employing in-place medical assets and establishing a contamination control capability. Develops disaster and contingency plans. As a member of the Battle Staff, advises installation commander on best employment of medical assets, LIMFACs of those assets, and base operating support requirements. Provides technical medical information and advice to the SRC. Manages chemical and biological warfare countermeasure stocks and inventories. Administers vaccines, antibiotics, and other countermeasures or procedures necessary to prevent or treat NBC casualties. Ensures passive defense needs are integrated with non-medical NBC defense measures to include pre-selection and health maintenance, health hazard monitoring, NBC agent and toxic industrial chemical/toxic industrial material (TIC/TIM) sampling and analysis, health threat and risk assessments and health hazard control and mitigation

- BES: Perform the chemical-biological quantitative fit training (QNFT) program on installation personnel, conduct installation water vulnerability assessment and surveillance program, and develop, in coordination with Civil Engineering Readiness (CEX) and other agencies, a WMD incident detection and monitoring plan. Respond to all accident and disaster sites to provide technical support and consultation to the commander. Sample, classify, and if possible, identify unknown hazardous materials. Perform environmental analyses to assess health and environmental impact of chemical, radiation and biological agents. Advise on hazards (health, radiological and environmental) for the immediate situation and protective measures and action to be taken. Provide disposal support of contaminated and hazardous items.
- b. MTF/SGP's Specific Role(s)
- Provide professional oversight on the training and preparation of medical personnel to provide installation operational medical support.
 - Collaborate with base operations and mobility planners to incorporate preventive medicine activities into the war mobilization plan.
 - Provide professional oversight of primary medical response to airborne emergencies, aircraft mishaps and other emergency disaster situations.

Summary

Team Aerospace is an integral player in the Full Spectrum Threat Response. The significant change in FSTR over prior disaster preparedness planning is the new emphasis on preventive medicine and health promotion prior to a contingency as a means of mitigating personnel vulnerability. The FSTR program taps the bioenvironmental engineering, public health, health promotion, and medical readiness core competencies of Team Aerospace. Bioenvironmental engineering in particular plays a very important role in FSTR because of their expertise in respirators, water assessments, and HAZMAT responses. Thus, Team Aerospace should be prepared to shoulder a significant portion of the medical support for the FSTR program. Crucial to accomplishing this will be the **need for the SGP to be very knowledgeable** regarding their installation-specific FSTR plans and programs.

References

AFPD 10-25, *Full Spectrum Threat Response*
 AFI 10-2501, *Full Spectrum Threat Response (FSTR) Planning and Operations*
 AFM 10-2601, *Nuclear, Biological, Chemical, and Conventional (NBCC) Defense Operations and Standards*
 AFM 10-2602, *Nuclear, Biological, Chemical, and Conventional (NBCC) Defense Operations and Standards*
 AFP 10-219V1, *Contingency and Disaster Planning*
 AFI 32-4001, *Disaster Preparedness Planning and Operations*

D. Responsibility for Geographically Separated Units

Introduction

Geographically separated units (GSU's) are locations that are at a distance that precludes quick and convenient travel from their location to yours, or vice versa. There does not seem to be a set distance, but TRICARE uses a distance equal to or greater than 50 miles from any military installation in order to qualify for TRICARE Prime-remote. These organizations are typically smaller than the squadron level, but can include special operation duty personnel (flyers, controllers, etc.), non-flyers, and their family members. Because the numbers of individuals are relatively small, they tend to be brought under the care of the flight medicine clinic. As with most things, the number and type of GSU's will vary with the geographic location, operational requirements that are associated with that area, and the density of AF installations. GSU's can range from satellite monitoring stations to test range operations personnel and ROTC cadre at a major university to the solo recruiter in a small town. Depending on the size, numbers of individuals, and remoteness of a location, Independent Duty medical Technicians (IDMT) may be collocated with the unit. Even though an IDMT can address most routine medical conditions, there still needs to be oversight in place for them as well. All personnel should be treated at the closest emergency department for issues threatening to life, limb, or eyesight. They should not, however, be encouraged to seek these medical assets for routine or primary care issues. TRICARE has established the Prime Remote status, as stated above. If there are no TRICARE approved providers within 30 miles of their duty station, they are eligible to see any non-network physician in the area. For routine care this system can be accommodating. For annual exams (i.e. Preventive Health Assessment), however, personnel are going to need to be seen in the military healthcare system. Clinics can be creative with how they accomplish this though. Some clinics will designate a day and travel to the location, perform PHA's or shop visits, and return that evening. Others clinics may not have the flexibility or staffing so the personnel have to come in annually. There is usually a local operating instruction (OI), or policy, that is being followed that can be reviewed upon arrival. Depending on the occupational exposures, bioenvironmental (BE) or public health (PH) may have to periodically inspect these locations as well, which presents another opportunity for junior flight surgeons to participate in these inspections. As such, the SGP needs to be aware of the GSU's in their area and how to approach their unique medical needs.

1. Overview of Roles/Responsibilities

Oversight of a GSU will depend on their particular mission. If there are special duty personnel at the location, the flight medicine clinic will obviously be involved, and arguably could take care of all other individuals there as well. If there is only non-flying personnel though, jurisdiction may depend on other more subtle issues, like empanelment numbers, "hidden" medical assets like Squadron Medical Elements (SME's), or other medical group staffing issues. If these personnel are going to fall under aerospace medicine, their empanelment numbers, or so called hidden numbers, need to be accounted for and utilized in flight medicine metrics.

Other potential needs of a GSU are occupationally driven. Any number of occupational requirements may be in effect to include hearing protection and annual audiograms, respiratory protection and mask fit testing, or chemical/environmental exposures and sampling thereof. These issues need to be addressed by the Occupational Health Working Group (OHAWG) as directed by AFI 48-145. The inconvenience of travel is now with the clinic/BE/PH shops, but must be accomplished in accordance with AFOSH or OSHA guidelines.

2. MTF/SGP's Specific Role(s)

- Be proactive in reviewing needs of the GSU's attached to your base, especially if empanelled to the flight medicine clinic. If it's unclear where they are empanelled, clarify this and determine their exact numbers in case they need to be counted in your metrics.
- Recognize there may need to be some creative structuring of visits or physical exams that may include a clinical team traveling to the location, arranging local lab work, or testing through the member's local primary care physician, if they qualify. Phone consults can also be utilized with the patient's treating physician.
- Think of what you will do if a controller or flyer goes DNIC/F. It may not be convenient to see these folks to return them to status, but fax transmission, telephone consults, or other guidance needs to be thoroughly documented in the medical record. Also keeping the original record in the office and providing them with a copy, or shadow record, may be necessary in some situations.
- Be sure to know the rules of engagement for an area. TRICARE Prime Remote has been *denied* for some special duty personnel necessitating going to the flight surgeons office (FSO) for every visit, even though they are over 1.5-hours away! Fax data is not secure, and privacy act information needs to be at least thought of. Education is also key for people to not seek routine care at a doctor's office or ED before authorization, in order to avoid the threat of non-reimbursement for care. Assure that individuals have access to the flight surgeon on call, or equivalent, for after-hours consultation or care authorization.
- Think of potentially educational shop visits or training that could be gained from junior flight surgeons accompanying the BE or PH teams. Perhaps combining physical exams with these shop visits, or, at a minimum, looking in on the empanelled personnel to check on how things are going, if improvements can be made, or if there are new issues that can be addressed.
- Know who the IDMT coordinator is, if not you, at your site in case there are issues regarding training, currencies, or the opportunity for continuation training at your facility. IDMT's need chart reviews and periodic oversight, which can be valuable experience for members of the aerospace medicine team. If they fall under the SGP, be familiar with their guidance and requirements, AFI 44-103.
 - Provides professional guidance and support to the IDMT and trains the IDMT in all areas of medical treatment related to the IDMT's scope of care

as determined by the prescribed USAF IDMT Medical and Dental Treatment Protocols.

- Establishes procedures that the IDMT must follow when referring medical emergencies beyond the IDMT's capabilities (all emergencies are referred).
- Provides feedback to site commanders on individual IDMT's duty performance.
- The host medical treatment facility (HMTF), regardless of MAJCOM affiliation, will arrange for BE/PH support to evaluate the potential health risk to Air Force and other DoD personnel from workplace and community environments, evaluate the adequacy of controls, and recommend changes in controls, as needed. The HMTF BE/PH will determine effectiveness of IDMT performance of BE/PH functions, and any special training requirements, and provide training as needed.

3. Summary

GSU's can be a challenge to accommodate and deal with; yet can potentially offer rewarding and educational benefits from their care. Be aware of the local policies governing these units, exact numbers of individuals involved for metrics, and maximize education and efficiency if visits are required. Be aware of the IDMT's situation at a site, if present, and offer assistance in accomplishing training or oversight that may be required. There is precedent not allowing special duty personnel TRICARE Prime Remote status, so be aware of areas that may require extra care and attention.

References

AFI 44-103, *The Air Force Independent Duty Medical Technician Program and Medical Support for Mobil Medical Units/Remote Sites*

AFI 48-145, *Occupational Health Program*

TRICARE Information website: www.fhfs.com

E. Interaction with AF Reserve/Guard Units/Members

Introduction

In 1973, then Secretary of the Defense, Melvin B. Laird, proclaimed a "Total Force" policy whereby the armed forces would put greater reliance on their National Guard and Reserve units. The USAF has led her sister services in terms of incorporation and utilization of its Air Reserve Components (ARC). The Guard and Reserve account for more than 65% of tactical and 35% of the strategic airlift capability, 60% of refueling, and 38% of fighters. They also make significant contributions to the rescue, bomber, and combat support missions. The two ARC's look much alike, but the Guard is larger and has more aircraft. Although both are assigned a full range of AF missions, US Air Force Reserve (USAFR) is weighted more toward mobility and the Air National Guard (ANG) more towards fighters. The biggest difference between the two is that the ANG is organized as a state Militia, answering to the respective Governor, that can be called into federal duty. On a personnel basis there are differences as well. The ANG is mobilized as a unit, but the reserves have two components that can be task. The first is the unit, which falls under the Headquarters Air Force Reserves (HQ AFRES) out of Robbins Air Force Base (AFB). The second, and perhaps the most significant from a SGP/medical

perspective, is the Individual Mobilization Augmentee (IMA). There are approximately 13,000 IMA's and fall into a wide range of Air Force Specialty Codes (AFSC's). These individuals are administratively under the Air Reserve Personnel Center (ARPC) in Denver, Colorado. Knowledge of these differences is *significant* because the three deployable units/members of the ARC potentially require different administrative processing. These differences are rooted in the specific mobilization of forces. If the President authorizes full mobilization of the ARC, then all Uniformed Code of Military Justice (UCMJ), or command jurisdiction, and administrative authority is given to the gaining Major Command (MAJCOM). Short of this however, command is given to the gaining MAJCOM, but administrative control is retained by the respective nonmobilized authority (ANG, AFRC, or ARPC).

The ARC are intended to compliment the active duty forces during times of need. As a result, training for the same duties by unit task codes (UTC's) are carried out so there can be seamless integration into an operation. In the expeditionary squadron, group, or wing, this will allow for all three components to serve under one commander and round out needed capabilities; be it medical IMA duties or flying operations.

1. Overview of Roles/Responsibilities

- National Guard Bureau (NGB) and HQ AFRES are responsible for establishing and maintaining effective safety and training programs that are compatible with those of the gaining commands. In addition, they provide gaining commands with copies of applicable training program policies and publications.
- ARPC is responsible for management of individual reserve programs to include the IMA Program, the Individual Ready Reserve (IRR), the Standby Reserve, and the Retired Reserve.
- Gaining MAJCOM will:
 - Establish training standards and objectives for training; review, monitor, and evaluate on a regular basis the effectiveness of training, readiness, and safety of ANG and USAFR forces.
 - Provide guidance, advice, and assistance to ANG and USAFR units to aid in solving specific problems related to command, staff and support functions, as well as operational readiness.
 - Implement IMA program policies and guidance as provided by ARPC. Provide administrative, logistic, and management support for assigned IMA's.

2. MTF/SGP's Specific Role(s)

There are a number of USAFR units that are co-located with active duty bases, so utilization of equipment or office space may be an issue. Most ANG bases are located at civilian airports, so this will not be a factor. Quite often there is an agreement for the reserves to use the Flight Surgeon Office (FSO) during their exercise or training periods. The SGP should be aware of these times, and can assist and oversee the utilization of FSO equipment. Some of the areas necessary for the SGP to be active in are:

- Making active duty providers/personnel aware of training days in order to assure medical records are cleared, and personal items are not in the way of reserve personnel. This will not only make it easier for them, it will prevent items from being moved or misplaced that could cause resentment amongst the staff.
- Assure they are not having difficulty with equipment, are utilizing it properly, and offering assistance where needed. If equipment is broken, your daily operation will be at stake, so having your NCOIC, or other capable staff, check in periodically to make sure everything is going smoothly could prevent potential problems.
- Get to know the personnel yourself. The reserve providers will often be able to help with manning shortages, and quite often have extensive experience that could potentially be beneficial to your office. If a problem does arise, being acquainted with the staff may help in addressing and resolving issues.

Another issue co-located facilities may come across is program assistance for exercise or inspections. They may not have the experience in all aspects of Operational Readiness Exercises/Inspections or Health Service Inspections (HSI). Local active duty knowledge pool, be it the SGP, NCOIC, or anyone else with experience, could be beneficial in educating or refreshing their knowledge in these areas. It also could be just showing them the organizational format or criteria now in use. If at all possible, be available to assist in order to help their transition to active service be as seamless as possible.

Manning assistance is an area where ARC personnel can be an invaluable asset. Days allocated for use of ARC officers, NCO's, and airmen are referred to as Military Personnel Appropriation (MPA) man-days because they are funded out of the military personnel appropriation account, an active duty account. MPA man-days support short-term needs of the active force by authorizing personnel with unique skills or resources that cannot be economically met in the active force. If assistance is needed, both guard and reserve personnel are potentially available to augment your clinic.

- Notification is given to your MAJCOM surgeon who will validate the request and attempt to find other resources available in the active duty populations, to include other MAJCOM's. It may expedite the process if you have the following requirements accomplished prior to submission:
 - The request must contain a statement of the mission, how the man-days will result in its completion, and any impact of man-day denial.
 - It must also contain the travel and per diem fund cites, grade range required, dates of augmentation, justification, a statement on attempts to obtain active force assistance.
- If active duty assistance is not available, the MAJCOM puts in a request to the Air Force Personnel Center (AFPC), who in turn sends a request to the ARPC who is task with assigning the man-days to the request. They are the processing center for both the ANG and the AFRES. Quite often the reserve folks get first dibs at the requests, or reserve personnel assigned to that requesting facility may be willing to serve their active time instead of brining in someone else. ANG members are typically not thought of by active units, but if close by, may be more economical than distant volunteers.

- Once that is processed, the requesting agency will publish orders in accordance with AFI 36-2619 [Military Personnel Appropriation (MPA) Man-Day Program].
- Manning assistance tours will begin on a Monday and conform to the local work week.
- All ARC personnel on man-day tours are entitled to the same medical care as full time active duty personnel, and if there is a medical issue, they will be treated until the disability cannot be materially improved.

One of the most confusing for those in the active military is the administrative process the ARC goes through. This is especially true when there is a medical issue that needs to be addressed. It isn't always that confusing, but the bottom line is 1) calling their home unit if you have a question, and 2) filling out a Line of Duty Determination (LOD, AF 348). The LOD is their life-line to benefits, recouping lost wages, etc. if they suffer an on the job injury/illness. Here are some the issues relating to ARC Forces.

- Families of activated ARC members become eligible for health care benefits under TRICARE Standard or TRICARE Extra on the first day of the military sponsor's active duty, if his or her orders are for a period of more than 30 consecutive days of active duty, or if the orders are for an indefinite period. If there is a more significant illness or injury to the member, the LOD is filled out at the base, and then sent to the member's home unit who forwards it to ARPC, with final determination being made by their wing commander.
- If an IMA or unit is active 179 days or more, they are considered active duty and all command or administrative processes go through their gaining MAJCOM. Families of these members may enroll in TRICARE Prime or may be eligible for TRICARE Prime Remote. LOD forms still need to be accomplished and forwarded to their home unit.
- Medical Evaluation Board (MEB) issues tend to be a joint task. If a condition develops while on active status that requires an MEB, the local clinic will write the MEB *if* the LOD determination is "LOD: YES or EPTS: service aggravation". Once accomplished, the MEB is forwarded on to the MEB referral center, along with the LOD of course.
 - If the member is close to retirement or demobilization, an extension of orders must be accomplished. In order to accomplish this, send notification to the home medical unit and they in turn will send a request to the personnel center that will grant the extension.
- Members are eligible for aftercare when they have been demobilized. These benefits are part of a DoD demonstration project, and ARC members are eligible for 60 or 120 days of care. The following is a brief synopsis, but details can be found at the hyperlink listed below.
 - Members separated after serving on active duty for more than 30 days in support of contingency operations, are eligible to receive transitional health care benefits for 60 or 120 days under the new Department of Defense (DoD) Worldwide TRICARE Transitional Health Care Demonstration Project if their sponsor was on active duty Jan 1, 2002, or later.

- Family members of sponsors with fewer than six years of active duty service are eligible for 60 days of transitional health care benefits; those with six years or more are eligible for 120 days.
- The transitional health care demonstration benefit is retroactive to Jan. 1, 2002, and remains in effect for two years, to allow DoD time to analyze the program and decide whether or not to make transitional health care a permanent TRICARE benefit for these family members.

3. Summary

The goal of “Total Force” is the seamless incorporation of ARC forces as a compliment to the active duty population. In the medical community, they can be a tremendous force multiplier in times of manning shortages or augmenting a deployed operation. The SGP should be aware of the process to request manning assistance as well as other issues that may come from co-located units. Personal rapport with reserve staff can assist in drill day issues and help resolve questions you may have. Keep in mind that a member’s home unit can assist with most questions, and that the LOD is the most important item for ARC personnel should they become injured or ill.

References

AFI 10-3, *Air Reserve Component Forces*, 2 May 94
 AFI 10-301, *Responsibilities of Air Reserve Component (ARC) Forces*, 1 August 95
 AFI 36-2619, *Military Personnel Appropriation (MPA) Man-Day Program*
 Transitional Health Care Benefits for 60 or 120 Days,
<http://www.tricare.osd.mil/newsreleases/2002/news0220.htm>

G. Squadron Medical Element

1. Introduction

The Squadron Medical Element (SME) provides medical personnel to support operational units. The Squadron Medical Element (SME) is the first building block of the Aerospace Medical Contingency Ground Support System. The element, typically, consists of one Flight Surgeon (48XX) and two medical technicians (4NOX1, or SEI 496), but can also consist of solely an Independent Duty Medical Technician (IDMT) in some non-flying units. The SME is authorized for assignment to the deployable flying squadrons, by Air Force Manpower Standards (AFMS) 5310A, and to deployable Red Horse units, and officially the SME is not part of the medical group. They are attached to the local medical unit when they are not deployed, and often jointly administered between the SGP or other senior MDG personnel.

The SME normally utilize the Unit Type Code (UTC) FFLGE-Air Transportable Clinic (ATC) as the primary means of providing the medical equipment and supplies to conduct sustained medical operations. The SME provides “Team Aerospace” for the supported unit. This normally includes limited outpatient care for all deployed personnel, emergency medical care (trauma and cardiac stabilization), in-flight emergency coverage, public health, occupational and preventive medicine services to deployed unit up to a population in the area of responsibility of 500 personnel. SME's collect, assess, and provide medical intelligence information. They also

recommend to the deployed commander strategies to reduce and/or prevent aerospace, occupational, environmental, and public health risk factors from having a detrimental impact on mission effectiveness. ATC's provide only limited holding capability of less than 24 hours. Timely and rapid aeromedical evacuation support is critical to mission success. SME's rely extensively on their assigned unit and Base Operating Support (BOS) for all non-medical support. Many SME packages do not have a ATC, and must prepare their own deployment equipment and supplies. These packages should be built based upon expected challenges the SME will face on the deployment.

When not deployed, the SME provides in-garrison medical support for the daily flying operations, medical readiness, operational readiness exercises, and clinical support through the local base Medical Treatment Facility (MTF). It provides the operational commander with a unique asset, a medical team at his disposal for questions, guidance in appropriate areas, and personal attention to the needs of his personnel and their families. It offers the flight surgeon and other members of the package a unique opportunity to learn about "line" operations.

SMEs are often people without large amounts of "Team Aerospace" experience. Professional mentoring and leadership is key in providing the operational commander with an effective SME package. The SGP should establish good communications with the operational commander and discuss with him the capabilities of and what expectations he should have of his SME package. Often a Memorandum of Understanding (MOU) between the operational unit and medical group is useful. This memorandum should focus on the expectations and capability of the SME and how they can support the operational unit, and the shared responsibility between the operational unit and the medical group of preparing this package to accomplish the mission (See Attached MOUs). SMEs seem to perform much better when there good open communication between the operational unit and the MDG supervision of the SME. The SGP should be involved in and assist the SME on deployment planning, equipment procurement, training and education and professional oversight of the SME package. The SGP may also wish to coordinate on administrative issues such as performance reports and leave approval for SME personnel, as the operational commanders depend on the MTF for overall support.

Flying/Operational Squadron Commander serves as commander and reporting official or the SME flight surgeon, and other team members. The SMEs squadron of assignment has Unified Code of Medical Justice (UCMJ) authority, provides all administrative (e.g. orderly room) functions for assigned SME personnel, including leave, and other personnel actions. The owning unit maintains a supply account with medical unit Medical Logistics (SGSL) and purchases medical supplies for Flight Surgeon deployment kits.

The SME personnel while in garrison will serve as an integral part of the home station Aeromedical Team, performing the same flight surgeon and technician duties (e.g. on-call and Emergency Room coverage, records reviews, exercises) as non-SME flight surgeons and enlisted personnel. Duties and responsibilities include all those required to accomplish the Aerospace Medicine Program as outlined in AFI 48-101,

Aerospace Medical Operations and the 4N0X1 Career Field Education and Training Plan (CFETP). SME personnel are, first and foremost, members of the medical community and should strive to provide outstanding support to their flying squadron while maintaining integration with the home station medical unit. Enlisted SME personnel will maintain required skills as noted in their CFETP. SMEs with Independent Duty Medical Technician (IDMT), certification, (SEI 496), will meet rotational and medical skills maintenance training as required for continued IDMT certification IAW AFI 44-103 for the duration of their assignment as an SME. All enlisted members identified for assignment to an SME position, will attend the J3AZY4N071-006, Medical Service Craftsman—Independent Duty Medical Technician course not more than one year following selection of assignment as an SME. When not deployed, the primary duty location for SME personnel (officer and enlisted) is the medical unit.

In a *contingency* to a location with a fixed or deployed medical unit or other in-place medical structure: SMEs will often be tasked to support more than just their home-station squadron. The SME will be responsible to the medical leadership (deployed SGP, expeditionary medical squadron or group commander). SMEs deployed to a location with a fixed medical unit must identify themselves to the medical unit commander or SGP. Clear lines of communication must be established and support requirements for the SME identified. If the SME will be using the fixed medical unit facilities (pharmacy, lab, or other services) the medical unit may require a credentials transfer brief and other administrative procedures to be performed.

2. MDG/SGP's Specific Role(s)

Provides senior flight surgeon support to:

- Assist SME physician with planning and conducting mission-specific “Team Aerospace” training, equipment procurement, deployment planning to accomplish their mission as SMEs.
- Coordinates with operational unit on function and mission of SME. Ensures expectations are met for operational unit. Coordinates and supports operational unit on administrative issues such as performance reports, leave etc.
- Assign duties to and monitor job performance of all SME Flight Surgeons and 4NO technicians in the medical unit when they are not deployed. In conjunction with this, it is very helpful to offer input to the squadron CC during an officer performance evaluation. Provides professional oversight of the SME package.
- In coordination with the line chain of command, will assign and manage the professional duties of the SME personnel in the medical unit when the SMEs are not deployed. This includes the appropriate balancing of time spent in clinical and non-clinical duties. Shop visits, public health inspections, control tower inspections, and other required non-clinical duties are important aspects of a flight surgeons development, particularly SMEs.

3. Summary

The Squadron Medical Element (SME) is the first building block of the Aerospace Medical Contingency Ground Support System. The Squadron Medical Element is a critical operational tool for the deploying commander. Assuring a professional working rapport with the squadron will foster relationships and potentially improve access to mission critical personnel during real-world or exercise scenarios. The role of the SME is to provide top-notch “Team Aerospace” support for the war fighter during deployed environments. The SGP must be involved in the SME unit so they can properly tailor, train, and mentor new SME personnel.

References

- AFI 48-101, *Aerospace Medicine Operations*, 11 July 1994
- AFI 10-209, *Red Horse*, 20 June 2001
- AFI 48-101ACC 1, *Aerospace Medicine Operations*, 13 September 1996
- ACC Medical Evaluation of Deployment and Employment Capability Concept Plan (MEDEC CONPLAN),
1 October 2000
- AFI 48-149, *Squadron Medical Element*

Chapter 6. Disaster and Emergency Response

“Chance favors the prepared mind.” L. Pasteur

The bottom line: Disaster plans are like ejection seats, hopefully you never need to use them, but when you do, it helps to know where the handles are...

Tips for success

- Make realistic disaster/emergency response training a high priority
- Establish relationships with key players in a disaster response, such as local EMS, base fire department, and local civilian medical resources
- Follow the HSI guidelines to make sure your plans, personnel, and equipment are ready
- Take care of yourself and your personnel, and don't forget critical incident stress debriefing
- Practice, practice, practice

The Chief, Aerospace Medicine, provides medical support and professional oversight for Team Aerospace. Team Aerospace has a key role to play in support of the installation operational mission. An important part of this mission is the planning and coordination of the base disaster response plan and contingency medical support programs, such as emergency flight line response, mishap investigation, and hazardous substance spills or exposures.

The three phases of a disaster response are activation, implementation, and recovery. Team Aerospace will be actively involved in all phases, and the SGP will be expected to play a major professional leadership role in the organization of the medical response to a disaster. Each disaster is different, but each has definable threat and impact characteristics. Each military base is different, and factors such as base location, risk of natural disasters, and the nature of the flying and operational mission will impact the local disaster and response plans.

When you assume the role of SGP, you should start by reviewing the existing local disaster and medical contingency plans. In order to provide disaster response support, the SGP must be familiar with the base disaster plan. Base disaster response guidance includes plans, standard publications, host-tenant and inter-service support agreements, memoranda of understanding, and operating instructions and checklists for external activities. The base Medical Contingency Response Plan (MCRP) provides specific guidance for medical response, team assignments, and responsibilities. The Medical Readiness Flight is typically the OPR for these documents. The SGP should review all the above plans with a view of how the medical group fits into these plans, and if training and preparation of medical personnel is congruent with base plans. The role of the SGP is to advise on the content, adequacy, and quality of the training that assigned medical personnel receive so that they are trained and prepared to provide medical support for the wide range of disasters and contingency operations. There are several Air Force Instructions (AFI's) that provide guidance for disaster planning and response. (*PDF files*

of these AFI's can be found on your SGP CD ROM). The SGP may need to refer to these documents to find specific guidance.

Exercise Evaluation and Testing (EET) is frequently a Wing Function with a Group representative. EET builds training exercises for the base, evaluates and grades the performance of various participants and reports this to the Wing. The SGP, because of their knowledge of the operational mission should be aware of likely scenarios for base exercises. Team Aerospace may wish to perform internal training exercises that are not graded by the Wing to obtain a high level of proficiency in expected areas of response. The SGP may also wish to suggest inputs through the Group EET representative for base wide exercises.

Training is a vital component to effective disaster and emergency response. Sufficient time and resources must be allocated to developing training scenarios that effectively test the plan and its participants. Assembling a perfect disaster binder may help you pass an inspection, but if your staff cannot locate the binder or is unfamiliar with the roles and responsibilities of aerospace medicine in disaster response, then your ability to respond effectively is reduced. Major accident response exercises, didactic training, and table top exercises allow your staff to become familiar with their roles and show them how they fit into the big picture of the mass casualty incident plan. Flight surgeons and their staff are key players in the initial response to base emergencies, and training should emphasize teamwork, communication, triage, and leadership. Continuing medical education and courses such as the AMIP course will help prepare your staff. Decision-making under stress is improved through training and familiarity with equipment, protocols, and expectations. Effective triage of patients, resources, and communications will help provide the greatest good to the greatest number.

Disaster response is multidisciplinary and requires the participation and cooperation of fire, medical, security, and other agencies. Advanced planning and training should allow the SGP and the aerospace medicine staff to develop relationships with the key players in the mass casualty incident plan. Take the time to visit the base fire chief and ask about the base disaster plan. Many AF bases are utilizing civilian ambulance services for base response, and the SGP should be familiar with their protocols. Establishing these working relationships will improve communication and teamwork and will allow realistic assessments of available capabilities and resources available.

Disasters can take their toll on responder as well as victims. The SGP must have a sense of the individual experience levels and capabilities of the aerospace medicine team. Inexperienced staff and flight surgeons must be brought up to speed before they are thrust into a situation they are not prepared for. Responders should receive training on casualty recovery, operating within entry and casualty collection points, and infection control. As human factors experts, flight surgeons must ensure that responders have access to food, shelter, water, rest, and other basic human needs. The SGP should work with the base mental health professional to assure that critical incident stress management is carried out appropriately.

There are many demands on the SGP and Aerospace Medicine. Recent world events have forced healthcare workers to examine how they plan for disaster preparedness. The

AFMS is continually balancing the requirements of patient care and medical readiness. The SGP must also assess and balance resources while ensuring that Team Aerospace is ready and able to respond when called.

Chapter 7. Education and Mentoring

A. Introduction:

Education is one of the surest ways to ensure success in life. Success as a Chief of Aerospace Medicine is no different. A Chief of Aerospace Medicine's success may largely depend on how well he can do three things: educate himself of his own job, educate his subordinates on the practice of aerospace medicine, and educate his peers and superiors on how Team Aerospace Medicine (TAM) can support the USAF Mission. Note that the job of Chief of Aerospace Medicine consists of much more than the practice of flight medicine. Note that, above all, the SGP is a "doctor" in the true sense of the word: The SGP is a teacher.

For this discussion, it is assumed that the Chief of Aerospace Medicine is at least an active supporter of the Aerospace Medicine Squadron (or squadron of which aerospace medicine is a part) if not actually the Aerospace Medicine Squadron Commander.

The SGP must resist the temptation to revert to what is comfortable. Just as the SGP's responsibilities encompass much more than flight medicine, the SGP should plan to educate all the specialty personnel on their part in of Team Aerospace Medicine and the USAF Mission. Therefore, the education plan must cover the all aspects of the aerospace medicine mission from various perspectives: Professional Medical Education, Professional Military Education, Professional Military Medical Education, and Military Medical Readiness Training.

1. Professional Medical Education:

By the time the various TAM personnel arrive at your duty station, it can be assumed that they have certain basic knowledge that will need reinforcement and expansion through on-the-job (OJT) training. Medical technicians, both 4Ns and 4Es, will have basic level education, but little practical experience. Make sure they enroll in Emergency Medical Technician training as soon as possible. Encourage then all to take advantage of Community College of the Air Force educational opportunities, both medical and non-medical. Depending on their academic backgrounds aerospace physiologists may need significant training in physiology to supplement what they get in their initial training course. Rather than abdicate our positions as the experts in aerospace physiology, we aerospace medicine specialists should recognize aerospace physiologists for how they can complement our training expertise. If you have a nurse, they will probably need to be doing work on their Masters degree. In addition, they should be certified in Advanced Cardiac Life Support (ACLS) as well as advanced courses in trauma nursing. Bioenvironmental Engineers (BEE) will also likely need to work on their Masters degree. Your Public Health Officer (PHO) may be a veterinarian. More and more PHOs are getting their Master of Public Health degrees. They have continuing education requirements just as physicians and nurses do. Even though this continuing professional medical educational takes time and effort, the long-term payoff for the unit will be troops who are better able to accomplish our primary mission.

2. Professional Military Education (PME):

The SGP who cares about his subordinates' professional military development and promotion potential will actively encourage completion of rank appropriate PME. PME may seem an onerous burden, especially in the face of current operations tempo. Enlisted troops need to complete Airman Leadership School and NCO Academy, both of which are TDY schools during which their work will be lost to the unit. Officers need to complete Squadron Officer School (SOS), Air Command and Staff College (ACSC), and Air War College (AWC). Without a doubt, your nurses, BEEs, and PHOs will need to complete rank-appropriate PME if they want to get promoted. Give them the time to do it. True, physicians may still be able to get promoted to O-5 without completing SOS and ACSC. However, an SGP will no doubt find that it is better to lead individuals who have a deeper understanding of their military mission than leading a group of technically competent Hawkeye Pierces.

3. Professional Military Medical Education:

This area includes academic and experiential training in the physical examination standards, Personnel Reliability Program (PRP), altitude and acceleration physiology, hyperbarics/hypobarics, circadian rhythm disturbances, mishap investigation. Some of these topics are covered in TOP KNIFE II and the Aircraft Mishap Investigation and Prevention (AMIP) course. These are topics that should also be taught as a collaborative effort with the physicians, physiologists, nurses, and technicians. The BEEs and PHOs can easily be rolled into training classes on hearing conservation, tuberculosis prevention, food safety, STD surveillance and prevention, facility inspections, and occupational health programs. A proposed annual training calendar for these topics is attached below. Cross-pollination here is key: The members of TAM should be the recognized experts on these topics, every Team member a teacher. Share the wealth of knowledge by getting your Team members on the briefing schedule of every ProStaff meeting. The underlying principles of these topics are not unique to the military, but their application often is. They are the *raison d'être* of Team Aerospace Medicine. If we do not get these programs right, the mission fails.

4. Military Medical Readiness Training:

This is the culmination of all other training for members of TAM. It combines the academics of professional medical and military education with hands-on application. It should be grounded in such courses as Combat Casualty Course (C4), Global Medicine, Contingency Operations (CONOPS), Expeditionary Medical Support (EMEDS), and the Critical Care Air Transport Training (CCATT). These are the topics, knowledge, and skills that make us absolutely unique from our civilian counterparts. If we are not fully ready, willing, and able to execute these skills, the entire Air Force Medical Service will cease to be relevant to the Line of the Air Force, and we may find ourselves replaced by contractors.

5. Flight Surgeon Mentoring Program

(a model for mentoring all Team Aerospace Personnel): This specific program that was born of a lack of active mentorship. Don't let this happen to your troops! It is too easy to let our junior flight surgeons stumble through their first assignment. Most

of our young flight surgeons are bright enough that they can pull it off with amazing proficiency. But consider how much better you could have performed in your formative years “if somebody had just told me that.” If the truth be told, this program was born of formalized AFSC upgrade program by the Aerospace Physiologists. There are undoubtedly similar programs already in existence for the enlisted and other corps. This mentoring program is intended to be a ready-made plan to develop your future replacements. It can be adapted to local conditions without reference here. With a little more effort, it can also be adapted to develop the future leaders of the enlisted and other officer corps of Team Aerospace Medicine.

References

Air Force Policy Directive 36-22 Military Training
Air Force Policy Directive 36-23 Military Education
Air Force Policy Directive 36-34 Air Force Mentoring Program
Air Force Instruction 36-3401 Air Force Mentoring
Air Force Instruction 41-105 Medical Education and Training Programs
Air Force Instruction 41-117 Medical Service Officer Education
Air Force Instruction 44-162 Air Force International Health Specialist Program
Air Force Instruction 46-101 Nursing Operations

Attachments

Flight Surgeon Mentoring Program (distributed at USAF level by AFMOA Aerospace Medicine in 2002)

- Proposed Flight Surgeon Mentoring Program (PowerPoint)
- Base Level Mentoring of Junior Flight Surgeons
- Local Annual Flight Surgeon Training Calendar
- Flight Surgeon Mentoring Internet Resource Resources
- FS MDG Orientation Training checklist
- FS OG Orientation Training checklist
- FS Physiology Orientation Training checklist

Chapter 8. Environmental Program

A. Base Environmental Programs - Introduction/Overview

Achieving and maintaining environmental quality is an essential part of the Air Force mission. The Air Force is committed to: cleaning up environmental damage resulting from its past activities; meeting all environmental standards applicable to its present operations; planning its future activities to minimize environmental impacts; managing responsibly the irreplaceable natural and cultural resources it holds in public trust; and eliminating pollution from its activities wherever possible.

The Air Force will conduct its activities according to national environmental policy. Commanders at all levels are responsible for full compliance with national and Air Force environmental policy. All Air Force employees, including military, civilian, and contractor personnel, are accountable for the environmental consequences of their actions.

An Air Force Environmental Quality Program will be developed and implemented. This program will be composed of four pillars: cleanup, compliance, conservation, and pollution prevention.

1. Cleanup

The Air Force will reduce health and environmental risks created or caused by past operations. At each installation, the Air Force will move as rapidly as possible to identify, characterize, and clean up contamination. The Air Force will ensure open, unbiased, and comprehensive processes for cost-effective cleanup and protection of human health and public well being by involving the public and regulatory agencies in the clean-up activities. At locations in foreign countries, the Air Force will restore sites contaminated by Air Force activities to sustain current operations and eliminate known imminent and substantial dangers to human health and safety.

2. Compliance

The Air Force will comply with applicable Federal, State, and local environmental laws and standards. Air Force activities in foreign countries will comply with the Department of Defense (DoD) Final Governing Standards, or in their absence, the environmental criteria of the DoD Overseas Environmental Baseline Guidance Document. Air Force deployment plans will identify the necessary resources and assign specific responsibilities to comply with applicable standards. Consistent with security requirements, the Air Force will support environmental compliance inspections of its operations and activities worldwide, and will aggressively correct areas not in compliance.

3. Conservation.

The Air Force will conserve natural and cultural resources through effective environmental planning. The environmental consequences of proposed actions and reasonable alternatives will be integrated into all levels of decision making. The environmental resources under Air Force stewardship will be protected and managed

in the public interest. Environmental opportunities and constraints will be the foundation of comprehensive plans for installation development.

4. Pollution Prevention.

The Air Force will prevent future pollution by reducing use of hazardous materials and releases of pollutants into the environment to as near zero as feasible. This will be done first through source reduction, e.g. chemical substitution, process change and other techniques. Where environmentally damaging materials must be used, their use will be minimized. When the use of hazardous materials cannot be avoided, the spent material and waste will be reused or recycled whenever possible. When spent material and waste cannot be reused or recycled, dispose of the spent material and waste as a last resort in an environmentally safe manner, consistent with the requirements of all applicable laws. Environmental costs will be accounted for in computing hazardous material life-cycle costs.

The Air Force will seek sufficient funding to carry out all environmental activities needed to meet its legal obligations. All funds appropriated by the Congress for these activities will be administered responsibly.

5. Overview of Roles/Responsibilities

DUSD(ES)	The Deputy Under Secretary of Defense (Environmental Safety) [DUSD(ES)] funds Agency for Toxic Substances and Disease Registry Programs (ATSDR) for ATSDR/DoD activities; provides policy review and overall direction for the ATSDR program and activities within DoD.
SAF/MIQ	The Deputy Assistant Secretary of the Air Force (Environmental, Safety, and Occupational Health) (SAF/MIQ) provides policy review and overall direction for the ATSDR program and activities within the AF; actively participates with ATSDR in health related activities as identified in the DoD-ATSDR MOU; ensures the AF bases its ATSDR publications and activities on the best available information and reflect accurate interpretation and use of data.
HQ USAF/CE	The Civil Engineer manages the Air Force Environmental Quality program IAW AFD 32-70 and the 32-series AFIs. Programs and budgets for the Medical Service Environmental Quality Programs, including cleanup, compliance, conservation, and pollution prevention, that meet the criteria in AFI 32-7001, Environmental Budgeting.
AFCEE and AFCESA	The Air Force Center for Environmental Excellence and the Air Force Civil Engineering Support Agency provide technical and contracting support to implement these policies.
	The National Guard Bureau and Headquarters Air Force Reserve advocate and oversee their environmental protection program, reporting to HQ USAF/CE or SAF/MI as appropriate.
MAJCOM/CC	Commanders of major commands and lower echelons develop and execute pro-grams to comply with these policies
AF/SG	The Air Force Surgeon General establishes the Medical Service

	Environmental Quality Programs, sets policy, and provides manpower resources and advocates for sampling, analysis, and monitoring requirements.
HQ AFMOA/SGZ	HQ Air Force Medical Operations Agency reviews proposed and executed federal legislation and rules, assesses impact on resources, develops the Medical Service Environmental Quality Programs policy for the AF/SG, provides implementing and supplemental guidance, publishes Air Force Instructions (AFIs), Air Force Pamphlets (AFPs), or Air Force Occupational, Safety and Health Standards (AFOSH Standards), and performs program implementation and execution oversight.
MAJCOM, DRU, and ARC Surgeons	Implement and ensure the execution of the Medical Service Environmental Quality Programs within their command, and coordinate associated workload for their MAJCOM with the Air Force Institute for Environment, Safety, Occupational Health Risk Analysis (AFIERA) and Service Environmental Quality Programs within their command. Coordinate associated workload for their MAJCOM with the Air Force Institute for Environment, Safety, Occupational Health Risk Analysis (AFIERA) and other servicing laboratories for planning, programming, and budgeting (PPB) and execution purposes.

MTF/SGP's Specific Role(s)

Air Staff, MAJCOM, ARC, FOA, DRU, and installation Aerospace Medicine Team (Flight Surgeon Office (FSO), Bioenvironmental Engineering Services (BES), and Public Health (PH)) roles are to provide direct mission support to Air Force commanders and collaboratively execute the Medical Service Environmental Quality Programs through: sampling, analyzing, monitoring, and surveillance of chemical, physical, radiological and biological agents; assessing and communicating human health and environmental risks, and advising on measures to manage and reduce risk; advising on human health and environmental exposure standards; collaborating and interacting with regulators, government agencies, and the public; assessing and advising on methods of preventing pollution; educating employees and informing the public of potential health and environmental threats; reviewing facility construction and modification design plans for aspects of environmental quality; assessing epidemiological information and correlating data; collecting, recording, verifying, interpreting, conducting trend analysis, and reporting data; identifying Medical Service Environmental Quality requirements for PPB.

Summary

Team Aerospace is a key element of base level Medical Service Environmental Quality Programs. Responsibilities include clean-up, compliance, conservation, and pollution prevention.

References

AFPD 32-70 Environmental Quality (20 July 1994)

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)
AFI 48-136, Agency for Toxic Substances and Disease Registry Programs (80 Sept 1994)

B. Base Environmental Programs - Clean-up

1. Introduction/Overview

The goal of the Air Force Environmental Restoration Program (ERP) is to reduce risks to human health and the environment due to contamination from past Air Force activities in a cost effective manner and in a manner that fosters community support. The scope of the Air Force ERP includes: cleanup and restoration of sites contaminated with toxic and hazardous substances, low level radioactive materials, petroleum, oils, lubricants and other pollutants and contaminants.

The Air Force ERP mission is to identify, investigate, and clean up contamination associated with past Air Force activities as necessary to protect human health and the environment. The Air Force executes cleanup and completes site close-out using a “risk plus other factors” approach for setting priorities, through building productive partnerships with regulators, community based decision making, and implementation of effective and efficient cleanup technologies.

The primary statutes governing restoration activities are CERCLA, DERP and the Resource Conservation and Recovery Act (RCRA).

2. Overview of Roles/Responsibilities

- SAF/MIQ: The Deputy Assistant Secretary of the Air Force for Environment, Safety, and Occupational Health has responsibilities that include, but are not limited to, developing restoration program policies and directions, overseeing the cleanup program, and acting as liaison with Deputy Under Secretary of Defense for Environmental Security (DUSD(ES)), the Congress and external organizations.
- SAF/GCN: The Air Force Office of General Counsel for Installations and Environment is responsible for providing legal counsel to SAF/MIQ on restoration matters.
- SAF/PAM: The Air Force Office of Public Affairs is responsible for providing overall program support, policy, and guidance regarding public affairs activities in support of the ERP.
- HQ USAF/ILE: The Headquarters Air Force Civil Engineer has overall responsibility for the execution of the ERP and oversees implementation of policy and guidance, develops budgets, and advocates for resources.
- HQ AFCEE: The HQ Air Force Center for Environmental Excellence and AFCEE Regional Environmental Offices (REOs) are responsible for providing technical expertise, contract services, and strategic planning to Air Force installations, MAJCOM's, and the Air Staff as requested, which is located at Brooks City-Base.

- AFLSA/JACE: Air Force Legal Services Agency, Environmental Law and Litigation Division provides legal support to HQ USAF/ILEV, to include policy, instruction, guidance and coordination, legal reviews, regulatory negotiations, and legal advice concerning Air Force ERP requirements; provides legal guidance and support to MAJCOM, HQ AFCEE and AFCEE REO equivalents as required, including recommendations for policies and positions on Air Force environmental legal matters, as necessary to ensure consistent implementation by the MAJCOM's and AFCEE REOs.
- AFMOA/SGZO: Air Force Medical Operations Agency, Environmental and Occupational Health Division provides technical and policy development assistance to SAF/MIQ and AF/ILE; provides program support, policy, and guidance regarding human health risk assessment, and environmental sampling and monitoring; serves as the Air Force's liaison to the ATSDR; provides health risk communications support to MAJCOM's and installations.
- MAJCOM's, Air National Guard, 11th Wing, U.S. Air Force Academy, and HQ AFCEE ensures Air Force restoration policy and guidance is disseminated to, and implemented by, subordinate field units.
- Installation Commander is responsible for the installation's interaction with Agency for Toxic Substances and Disease Registry Programs (ATSDR) and signs review comments or responses on ATSDR documents.
- Base Judge Advocate advises and assists with ATSDR activities.
- Public Affairs advises and assists with ATSDR activities.
- Base Civil Engineering (CE), or when applicable, Environmental Management (EM) provides existing environmental and operational reports and data as requested to the Base BEE for ATSDR's use; advises and assists with ATSDR activities; incorporates, when applicable, ATSDR findings, conclusions, and recommendations into the Planning, Programming, and Budgeting System (PPBS) process (e.g. DERA, Operation and Maintenance).

3. MTF/SGP's Specific Role(s)

- Military Treatment Facility Commander reviews ATSDR documents and coordinates on responses to these documents.
- Base Aerospace Medicine Division interfaces with ATSDR team reviews medical effects data; directs additional medical data collection; assesses biotoxicity and pathways; reviews ATSDR public health assessment documents; assists installation officials with communicating the AF position at community forums and provides risk communication.
- Base Bioenvironmental Engineer (BEE): Is the installation's ATSDR point of contact; coordinates ATSDR activities through the Medical Treatment Facility Commander; assembles and maintains an inventory of information sources and documents; provides information to ATSDR; advises ATSDR of security clearance requirements; prepares correspondence for the installation; apprises the commander, MAJCOM, and AFIERA of ATSDR activities; provides technical assistance to CE/EM on ATSDR follow up actions; communicates health assessment and health risk to installation officials; supports installation officials at community forums.

- Base Public Health interfaces with ATSDR team; assesses epidemiological and toxicological pathways; consults on health effects data; coordinates and assists with medical data collection; coordinates with state and local health officials; reviews ATSDR public health assessment documents; provides risk communication and health education. supports installation officials at community forums.

References

AFPD 32-70 Environmental Quality (20 July 1994)
 AFPD 90-1, Strategic Planning and Policy Formulation
 AFI 32-7020 The Environmental Restoration Program
 AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)
 AFI 48-136 Agency for Toxic Substances and Disease Registry Programs (80 Sept 1994)
 Air Force Institute for Environment, Safety, Occupational Health Risk Analysis web site <http://starview.brooks.af.mil/afiera/>

C. Base Environmental Programs - Compliance: Sampling, Analysis, Monitoring

1. Introduction

The Air Force complies with environmental standards and laws, to ensure that it is a good steward of the resources it uses. Prudent management of these resources ensures long-term access to the air, land, and water the Air Force needs to sustain mission capability.

2. Overview of Roles/Responsibilities

- MTF/SGP's Specific Roles in Sampling, Analysis, and Monitoring
- Installation Bioenvironmental Engineering Services (BES) are responsible for: sampling, analysis, and monitoring; knowing applicable SAM regulatory requirements pertinent to their installation; developing a SAM plan for their installation annually in conjunction with the Civil Engineer or Environmental Manager, as applicable; considering compliance requirements while developing the SAM plan; submitting the SAM plan to the MAJCOM BES for review; providing summaries of environmental standards exceeded to the Civil Engineer or Environmental Manager, as appropriate, and reporting to the Environmental Protection Committee, in accordance with AFI 32-7005; identifying compliance, discretionary, and resource requirements in the plan, identifying resources for PPB purposes necessary to execute the plan; and submitting SAM compliance requirements for inclusion to the installation's A-106 submittal.

References

AFPD 32-70 Environmental Quality (20 July 1994)
 AFI 32-7001, Environmental Budgeting (9 May 1994)
 AFI 32-7005, Environmental Protection Committees (25 Feb 1994)
 AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)

D. Base Environmental Programs - Compliance: Hazardous Waste

1. Introduction

Hazardous wastes are materials that no longer serve a useful purpose and either appear in the EPA's "Listed Wastes" in the Code of Federal Regulations (CFR) or demonstrate the hazardous characteristics of ignitability, corrosivity, reactivity, or toxicity.

The Resource Conservation and Recovery Act (RCRA) and supporting CFRs regulate the management of hazardous waste from its generation through disposal, or from "Cradle-to-Grave." The Federal Facility Compliance Act waives the Federal Government's immunity from prosecution for violations of RCRA, and gives regulators the ability to impose fines for RCRA violations, except for Underground Storage Tanks. Hazardous waste violations constitute the single largest number of enforcement actions the Air Force receives. Most violations occur for failure to follow administrative requirements in plans, inspections, record keeping, and for improper labeling of drums. Refer to AFI 32-7042 for more information (AFCEE).

2. MTF/SGP's Specific Roles in Hazardous Waste

Installation Bioenvironmental Engineering Services (BES) characterizes hazardous waste (to include used oil) and develops a hazardous waste analysis plan for the installation; updates the hazardous waste analysis plan every three years as a minimum, or as necessary to meet compliance. BES reviews and identifies inappropriate analysis requirements/techniques to the contracting authority before analysis contracts are awarded; determines hazardous waste sampling requirements; collects, prepares, and arranges for the transport of hazardous waste samples to an approved laboratory for analysis. Interprets all analytical results and advises generators and waste managers of waste characteristics; coordinates and is responsible for developing and maintaining the installations hazardous waste stream inventory; completes health sections of the hazardous waste profile sheets and maintains copies; provides, or arranges for, hazardous waste safety and health training (as specified in 40 CFR 264.16, 265.16, 262.34) to Air Force employees and identifies worker requirements for use of personal protective equipment; reviews plans for construction or modification of hazardous waste treatment, storage, or disposal facilities; conducts annual surveys of industrial processes and waste storage facilities to assess compliance with applicable worker and environmental protection requirements.

References

AFI 32-7042 Solid and Hazardous Waste Compliance (12 May 1994)

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)

40 CFR, Protection of Environment Parts 260-280

AFCEE web site: <http://www.afcee.brooks.af.mil/ec/planning/guide/GUIDE4.asp>
1/7/2003

AFPAM 32-7043, Hazardous Waste Management Guide

Air Force Institute for Environment, Safety, Occupational Health Risk Analysis web site <http://starview.brooks.af.mil/afiera/>

E. Base Environmental Programs - Compliance: Surface, Ground, and Waste Water

1. Introduction

The Clean Water Act (CWA) requires permits to discharge pollutants to the waters of the U.S. Discharges of domestic and industrial wastewater, as well as storm water run-off, are regulated under the National Pollutant Discharge Elimination System (NPDES) permit program of the CWA. (AFCEE)

Discharge permits are issued by EPA and the States having an EPA approved NPDES program. The permit establishes pollutant discharge levels and monitoring and reporting requirements. Often permits are jointly issued and the States may have more stringent compliance standards. Local entities may also require pretreatment of industrial discharges to off-base Publicly Owned Treatment Works (POTW). AFI 32-7041, Water Quality Compliance, is the governing document. It also provides additional policies, such as fire training, release of aqueous film forming foam, and the need to have Spill Prevention, Control, and Countermeasures (SPCC) plans. (AFCEE)

Key wastewater compliance requirements include the use of NPDES permits, pretreatment of industrial discharges to on- or off- base treatment plants, sludge management permits, non-point source pollution control (storm water runoff), and protection of streams, rivers, and lakes. Since the majority of enforcement actions are for failure to meet discharge standards and for administrative deficiencies, special emphasis must be placed on monitoring discharges, record keeping and reporting, and training and certification of treatment plant operators. State authorities will issue a "Notice of Violation"(NOV) for failure to meet standards or reporting requirements. NOV's do not necessarily mean an enforcement action or fee will be levied. If the NOV is addressed promptly, between the responsible office and the state, the NOV is often rescinded.

2. MTF/SGP's Specific Roles in Surface, Ground, and Waste Water Compliance Programs

- Installation Bioenvironmental Engineering Services (BES) performs storm water, point and non-point ambient water discharge, injection well discharge (ground water) characterization and compliance monitoring, develops and maintains stream emission inventories, and conducts special investigations to identify waste management practices and to meet federal, state, and local water quality compliance regulations. Excludes routine monitoring of industrial and domestic wastewater treatment processes.
- BES permanently identifies all environmental monitoring points and maintains a master record of all locations; performs trend analysis on emissions and reports results to the Environmental Protection Committee, installation commander, and the installation Civil Engineer or Environmental Management.

- BES monitors and assesses the impact of Air Force Activities and discharges on surface and ground water quality, human health, and the environment; advises commanders and activities on the monitoring programs and of opportunities to modify operations or facilities to meet compliance requirements, reduce risks and prevent pollution; and reviews installation construction and facility modification plans for surface and ground water emission compliance and for opportunities to reduce pollution emissions.

References

AFI 32-7041, Water Quality Compliance (13 May 1994)

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)

AFCEE web site: <http://www.afcee.brooks.af.mil/ec/planning/guide/GUIDE4.asp>
1/7/2003

Air Force Institute for Environment, Safety, Occupational Health Risk Analysis web site <http://starview.brooks.af.mil/afiera/>

E. Base Environmental Programs - Compliance: Air Emissions

1. Introduction

Air Force installations have sources of regulated air pollutants. These sources require operating permits, or permits for new construction and major modifications (see AFI 32-7040). Operational permits include vehicle and industrial operations, electrical power generation, and fuel dispensing. The Clean Air Act and National Ambient Air Quality Standards form the basis of compliance. Installations are expected to encounter greater difficulty with compliance in Air Quality as permitting rules of the Clean Air Act are implemented. (AFCEE)

2. Roles/Responsibilities

AFIERA/RSE provides air quality monitoring consultant services and is the Air Force central depository for installation air emission inventories.

3. MTF/SGP's Specific Roles in Air Emissions Compliance Programs

- Installation Bioenvironmental Engineering Services (BES) is responsible for air emissions surveys and inventories, and compliance monitoring, unless the MAJCOM has assigned responsibilities differently; provides technical oversight of contract monitoring and inventory efforts; verifies and interprets air monitoring results.
- BES reports results, trends, and compliance status to the installation commander, Environmental Protection Committee and the installation Civil Engineer or Environmental Management, as applicable; maintains copies of the base air emission inventory; advises Air Force activities on process modifications and opportunities to reduce air emissions; and reviews construction and modification plans for air emission compliance and for opportunities to reduce emissions.

References

AFI 32-7040, Air Quality Compliance (9 May 1994)

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)

F. Base Environmental Programs - Compliance: Potable Water

1. Introduction

Drinking water systems are federally regulated by the Safe Drinking Water Act (SDWA). AFI 48-119 requires compliance with the standards and monitoring requirements of the SDWA. Almost all states have authorization to administer drinking water compliance programs, and a State's compliance requirements at a base may be more stringent than federal requirements

2. Roles/Responsibilities

- AF/SG: The Surgeon General of the Air Force is the Air Force's office of primary responsibility for potable water quality, compliance with the Safe Drinking Water Act (SDWA), and publishing the Air Force's implementing policy.
- HQ AFMOA/SGZE develops Air Force policy for the Safe Drinking Water Act and publishes implementing guidance.

3. MTF/SGP's Specific Roles in Potable Water Compliance Programs

- Base Bioenvironmental Engineering Services (BES) performs potable water surveillance in garrison and in contingency (including wartime) operations for the protection of public health and regulatory compliance; informs the installation commander, through the Chain of Command and provides prompt notification to the Civil Engineer or Environmental Management, as appropriate, of potable water issues that could impact public health or result in open enforcement actions from regulatory agencies.
- BES provides guidance for potable water monitoring and quality standards; performs sampling for contaminants, ensures analysis by State approved methods and laboratories, conducts sanitary surveys and vulnerability assessment of potable water systems, monitors aircraft watering points, interprets all analytical results, maintains system records, performs trend analysis, and reports reportable occurrences and results to the installation commander and the Environmental Protection Committee.
- BES assists in public notification of potable water issues; conducts, in conjunction with Civil Engineering, an installation wide cross-connection hazard survey every five years, or as determined by the State; conducts engineering reviews of repairs and modifications to potable water systems, and determines and conducts SAM as necessary. Reviews construction and modification plans and drawings to assess and advert health hazards to the water system.
- BES advises commanders on ground water protection opportunities, physical modifications to enhance water treatment and distribution systems, and alternative

management practices to meet compliance requirements and enhance water quality.

- BES deploys to contingency sites where potable water is of significant concern as determined by the MAJCOM SG.

References

AFI 32-1066, Plumbing Systems (4 May 1994)

AFI 32-1067, Water Systems (25 Mar 1994)

AFI 32-7041, Water Quality Compliance (9 May 1994)

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)

AFI 48-144 Drinking Water Surveillance (Draft at this time)

AFCEE web site: <http://www.afcee.brooks.af.mil/ec/planning/guide/GUIDE4.asp>
1/7/2003

H. Base Environmental Programs - Compliance: HAZMAT Emergency Planning and Response

1. Introduction

Hazardous materials include all ignitable, corrosive, reactive, or toxic products and more. Since releases of hazardous materials present a severe health and safety risk, many federal regulations require you to take action to prevent, prepare for, respond to and recover from hazardous material releases. AFI 32-4002 provides policy for compliance with these requirements. The most common cause of enforcement actions regarding HAZMAT planning and response is failure to comply with the installation HAZMAT Plan. (AFCEE)

2. MTF/SGP's Specific Roles in Hazardous Material (HAZMAT) Emergency Planning and Response Compliance Programs

- Installation Bioenvironmental Engineering Services (BES) supports installation HAZMAT emergency planning (Preparedness and Prevention), and emergency response in accordance with AFI 32-4002.
- BES collects, prepares, arranges for transport, analyzes, and interprets results of environmental samples to support installation HAZMAT emergency planning and response requirements.
- As a member of the installation HAZMAT emergency planning team, BES supports hazard identification, vulnerability analysis, capability assessment, and risk management planning for contingencies; identifies the types and amounts of HAZMAT on the installation that exceed the threshold planning quantity as required by federal, state, and local regulations (e.g., Emergency Planning and Community Right-to-Know Act (EPCRA)); provides technical assistance on evacuation planning and in-place sheltering to minimize adverse health and environmental impact during HAZMAT incidents.

- BES provides, during installation HAZMAT responses, oversight and technical consultation to protect and assess impact to human health and the environment.
- As a member of the HAZMAT post-emergency response team (advisory group), BES oversees protection of worker and public health during clean-up and remediation activities and provides expertise in establishing clean-up standards.
- BES assists the commander in identifying HAZMAT releases and reporting releases in excess of the reportable quantity to the appropriate federal, state, and local agencies; identifies appropriate occupational health related training requirements for HAZMAT responders.

References

AFI 10-2501, Full Spectrum Threat Response (FSTR) Planning and Operations
 AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)
 AFCEE web site: <http://www.afcee.brooks.af.mil/ec/planning/guide/GUIDE4.asp>
 1/7/2003

I. Base Environmental Programs - Compliance: Asbestos Management

1. Introduction

Asbestos was used in building materials, and, when damaged, may release fibers that pose a health hazard. Manage asbestos "in place" when possible and systematically eliminate it from facilities as we complete renovations. Environmental Compliance funds can only be used where asbestos poses a known health hazard. Asbestos removal in conjunction with facility projects is funded using the same funds as the larger project it is part of. Refer to AFI 32-1052 for more information. (AFCEE)

2. MTF/SGP's Specific Roles in Asbestos Management Compliance Programs

- Installation Bioenvironmental Engineering Services (BES) supports asbestos management in accordance with AFI 32-1052.
- BES monitors ambient and background air outside of work enclosure during maintenance and abatement procedures involving asbestos-containing materials (ACM) and performs clearance sampling following abatement actions; interprets analytical results to ensure proper protection of Air Force personnel and the public, and adequate clean-up after removal. If ambient air monitoring or clearance sampling are performed by a contractor, reviews and interprets contractor's analytical results, and approves re occupancy. BES monitors worker exposures during maintenance and abatement procedures accomplished by government employees.
- BES conducts or arranges for Sampling, Analysis, Monitoring (SAM), and oversees SAM in support of the Installation Asbestos Facility Survey; evaluates facilities and determines requirements for ACM repair, maintenance, or removal; consults with Base Civil Engineer and assists in determining the in-place management or abatement measures necessary to reduce or eliminate a hazard.

- BES reviews all asbestos removal or abatement contracts to ensure proper requirements are identified, and to ensure the protection of Air Force personnel.

References

AFOSH STD 48-8 Attachment 9: Controlling Exposures to Hazardous Materials

AFI 32-1052, Facility Asbestos Management (22 Mar 1994)

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)

AFCEE web site: <http://www.afcee.brooks.af.mil/ec/planning/guide/GUIDE4.asp>
1/7/2003

29 CFR 1910.1001, Asbestos in General Industry

29 CFR 1926.1101 Asbestos in Construction

J. Base Environmental Programs - Compliance: Lead-Based Paint (LBP)

1. Introduction

Lead-based paint (LBP) was commonly used in and on buildings and other structures until 1978. LBP in good condition does not generally pose a health hazard. When LBP is in a deteriorated (cracking, peeling, chipping) condition, or damaged by renovation or maintenance activities, it can release lead-containing particles that pose a threat of lead contamination to the environment and a health hazard to workers and building occupants. Children are at greatest risk for adverse effects from exposure to lead from LBP; accordingly, Air Force policy considers facilities frequented by children to be "high priority" facilities. Manage LBP "in place" when possible and systematically eliminate it from facilities as we complete renovations. (AFCEE)

2. Specific Roles in Lead-Based Paint (LBP) Compliance Programs

- SGP: The Chief, Aerospace Medicine ensures a coordinated epidemiological evaluation of children with elevated blood lead levels; establishes and chairs the Lead Toxicity Investigation (LTI) team and ensures appropriate clinical follow-up of positive pediatric lead results and provides risk communication as needed.
- Installation Bioenvironmental Engineering Services (BES) supports conducts inspections and evaluations of facilities to assess LBP hazards with the Base Civil Engineer (BCE); carries out sampling and testing to assess hazard potential in facilities; determines if LBP hazard exist; consults with BCE and assists in determining the in-place management or abatement measures necessary to reduce or eliminate a hazard; performs air sampling and personnel monitoring on DoD employees, not contract employees, to quantify lead exposure in facilities during maintenance and repair activities which disturb LBP. Conducts, or arranges for and oversees, the collection of clearance sampling after activities disturbing LBP and interprets analytical results; assists in conducting investigations of incidents of possible lead exposure.
- Public Health (PH) investigates incidents of possible lead exposure and performs appropriate notifications; provides lead exposure prevention education program that includes instructions to occupants of military family housing, facility managers, inspectors, etc., on potential LBP hazards and lead-toxicity symptoms;

coordinates with local public health authorities on lead exposure environmental assessments to be conducted in non governmental housing; monitors and ensures follow-up of patients with elevated blood-lead levels.

References

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)
24 CFR, Part 35, Requirements for Notification, Evaluation, and Reduction of Lead Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance
29 CFR, Labor:1926.62 Lead in Construction; 1910.1025 Lead in General Industry
AFCEE web site: <http://www.afcee.brooks.af.mil/ec/planning/guide/GUIDE4.asp>
1/7/2003
AFOSH STD 48-8, Attachment 7: Controlling Exposures to Hazardous Materials

K. Base Environmental Programs - Compliance: Tank Compliance

1. Introduction

The principal goal of Underground Storage Tanks regulations is to protect groundwater and soil from contamination.

2. MTF/SGP Specific Roles in Tank Compliance Programs

- Installation Bioenvironmental Engineering Services (BES) provides human health and environmental risk assessment support in accordance to AFI 32-7044; provides surveillance during above ground and below ground tank entries to ensure protection of worker health and the environment and compliance with applicable standards; advises the Civil Engineer, or environmental Management, as appropriate, when leaks are suspected from industrial process tanks; evaluates health risks and provides environmental sampling and analysis support when contamination is suspected from above ground and below ground tanks.

References

AFI 32-7044, Storage Tank Compliance (25 April 1994)
AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)
AFCEE web site: <http://www.afcee.brooks.af.mil/ec/planning/guide/GUIDE4.asp>
1/7/2003
AFOSH 91-25 Confined Spaces

L. Base Environmental Programs -Compliance: Radon Compliance

1. MTF/SGP Specific Roles in Radon Compliance Programs

- Installation Bioenvironmental Engineering Services (BES) assesses radon levels in Air Force owned structures, performs monitoring, interprets results, works with BCE to mitigate those structures found to be above the action level, and conducts post-mitigation monitoring; in collaboration with the other members of the Aerospace Medicine Team, assists in communicating risks to Air Force employees and the public.

- Flight Surgeons Office (FSO) and Public Health PH collaborates with BES to assess the potential public health impacts and perform risk communication; coordinates health surveillance data with surrounding communities public health personnel to ascertain health impact in the community.

Reference

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)

M. Base Environmental Programs - Conservation

1. MTF/SGP Specific Roles in Conservation Programs

- Installation Bioenvironmental Engineering Services (BES) provides technical assistance to the base Environmental Planning Functions (EPF) in the areas of environmental impact, standards, health effects, monitoring capabilities, controls, and compliance; conducts reviews of environmental impact statements and proposals for construction projects and mission changes for human health and environmental impact; provides technical support to assist in ensuring environmental constraints have been identified in base comprehensive plans as required by AFI 32-7062. BES assists in evaluating specific noise events to support the Air Installation Compatible Use Zone Program IAW AFI 32-7063; provides environmental and facility data consistent with environmental baseline surveys (EBS) in accordance with AFI 32-7066.

References

AFI 32-7061, Environmental Impact Analysis Process (24 Jan 1995)

AFI 32-7062, Air Force Comprehensive Planning (1 Oct 1997)

AFI 32-7063, Air Installation Compatible Use Zone Program (17 Apr 2002)

AFI 32-7064, Integrated Natural Resources Management (1 Aug 1997)

AFI 32-7065, Cultural Resources Management (13 Jun 1994)

AFI 32-7066, Environmental Baseline Surveys (25 Apr 1994)

AFI 48-119, Medical Service Environmental Quality Programs (25 July 1994)

N. Base Environmental Programs - Pollution Prevention

1. MTF/SGP Specific Roles in Pollution Prevention Programs

- Installation Bioenvironmental Engineering Services (BES) identifies hazardous materials and their authorized users; is a member of the installation's cross-functional hazardous material "pharmacy/cell" for control of hazardous materials as implemented locally; inventories hazardous chemical usage and storage to support reporting requirements of the Pollution Prevention Act, Toxic Release Inventory, and state reporting requirements of Executive Order 12856; participates in pollution prevention opportunity assessments; reviews material substitution and process modifications to ensure identification, assessment, and appropriate management of potential health and environmental hazards.

References

AFI 32-7001, Environmental Budgeting (9 May 1994)

AFI 32-7080, Pollution Prevention Programs (12 May 1994)

AFI 63-118, Civil Engineer Research, Development, and Acquisition (29 Apr 1994)

Chapter 9. Epidemiology

A. Introduction

Aerospace Medical Operations, AFI 48-101 directs that the “(MTF/SGP) coordinates with Public Health, Bioenvironmental Sciences, Health Promotion and Flight Medicine/Physical Examination Section (no longer) on disease and injury prevention health surveillance activities, and occupational health programs”. As the Aerospace Team Leader, the SGP must be aware of the many epidemiology programs on base and regularly interact with Public Health (PH). The PH officer (PHO) is the base epidemiologist, and thus, the main point of contact for these programs.

The most important question the SGP can ask himself/herself when reviewing the myriad statistics that can be generated from these programs is: What value is gained through this information? Tracking disease rates is a noble goal, but the true purpose of the exercise is to analyze the data, spot trends and act to prevent disease transmission. To do that, the information must be framed properly – comparisons from months (and possibly years) past and background information on the population in question must be available on the reports. For instance, base A might have a sudden increase in the STD rate and it may be traced to a recent deployment. The SGP should not stop with this explanation – he/she should then use the information to work with the squadron involved to prevent future problems, possibly through education or condom distribution policies.

B. Synopses of Epidemiology programs on base:

1. Tuberculosis Detection and Control Program

(TBDCP), AFI 48-115(29 JUN 1994.

PH manages education and epidemiology for the TBDCP. They work with the Infection Control Committee to ensure compliance with OSHA regulations (such as reporting converters that work in health care to OSHA log). They conduct all the baseline histories and interviews for positive reactors and notify the appropriate authorities when reactors who need follow-up are transferred, either to a new base or to civilian life. They investigate all active cases of TB promptly, including testing of contacts. The scope of tuberculin skin testing is set out in the AFI above and paraphrased below:

- Any person on active duty for >30 days.
- Personnel (military and civilian) and dependents returning from overseas or transferring from one overseas location to another.
- Medical personnel annually and high-risk (CDC guidelines) every 6 mos.
- All individuals who test HIV positive.
- Close contacts of active cases
- Occupationally exposed personnel.

All positive reactors are evaluated clinically (CXR, cultures if appropriate and HIV risk evaluation) and followed by both clinical medicine and PH. PHO tracks down no-shows for monthly follow-ups. The AFI was last updated in 1994 and treatment algorithms have changed since then, so check the CDC website for most recent updates.

2. Prevention and Control of Sexually Transmitted Disease, AFI 48-106 (29 APR 1994).

PH receives consults from health care providers and performs appropriate contact interviews, education and follow-up, including tests of cure cultures and appropriate syphilis and HIV serologies (Hepatitis B serology/vaccination may also be done depending on the base's OI). The clinical laboratory reports all findings of reportable STDs to the health care provider and PH. The provider is responsible for treating the patients in accordance with the most recent CDC recommendations. PH tracks the patients and reports the prevalence rates to the MTF/SGP. The Epidemiology Services Branch (AFIERA/RSRH) (at Brooks AFB) monitors the STD trends based on data submitted through AFRESS (Air Force Reportable Events Surveillance System).

3. Food Safety Program, AFI 48-116 (19 JUL 1994).

PH is responsible for food safety both in garrison and when deployed. This includes inspecting food upon arrival and after storage to ensure wholesomeness (i.e. in food facilities, squadron snackos, aircraft, vending machines), providing professional advice and consultation to the Aerospace Medicine Council (AMC) and providing or approving formal food safety training for food service employees/supervisors. The AMC will establish the frequency of food facility sanitary inspections. These inspections ensure that the each facility complies with food codes, procures food from approved sources and practices safe and effective pest management. PH is also responsible for investigating any food- or waterborne outbreaks. The SGP should guarantee that flight surgeons attend a representative sample of food safety inspections to assist with the identification of problems not on the required form and to add an occupational medicine perspective to the visits.

The installation commander can also authorize a list of locally approved food establishments provided by PH. If this is the case (mostly in OCONUS locations), PH is responsible for periodically inspecting and approving these civilian restaurants.

4. Surveillance and Reporting of Communicable Diseases, AFI 48-105

(currently not published, info abstracted from 86th Medical Group (Ramstein) OI)
PH is responsible for training the medical staff in the reporting of communicable diseases. DoD prepares a Tri-Service Reportable Events listing to which each service may add specific diseases. This is the basis for "reportable communicable diseases". Base level PHOs add state and county requirements to this list. It should be reviewed and approved each year by the AMC. Providers are required to inform PH of all reportable diagnoses. PH also collects data by reviewing the emergency room logs, quarters forms, laboratory reports and possibly, ICD 9 codes. They then follow guidelines to collect the required amount of information on each patient. PH reports the data internally (as determined by the AMC) and exports the data through AFRESS to the Epidemiology Services Branch at AFIERA, Brooks City-Base. The base level PHO is responsible for contacting their county/state health department for those diseases that are reportable by state policy. The state, in turn, will report this information to the CDC.

5. Syndromic Surveillance

AF has required “syndromic surveillance” since a post 9-11 policy was issued by AFMOA in Nov 01. The primary purpose of syndromic surveillance is early identification of a bioterrorist event. One tool that is currently being used is ESSENCE, Electronic Surveillance System for the Early Notification of Community-Based Epidemics. This is a DoD-wide surveillance system developed at GEIS (Global Emerging Infections System). Examples of syndromic categories that can be tracked: Upper Respiratory Infection, Acute Gastroenteritis, Dermatitis (infectious or hematologic), Fever/Scarlet Fever, Coma, Convulsion and Syncope/Shock. The PH staff is required to review this data daily and confer with clinicians when a spike is identified to determine if it is real/significant.

6. Human Immunodeficiency Virus Program, AFI 48-135

PH at the base level has minimal duties in this program. Essentially, all ADAF members are tested every 5 years for HIV during the PHA process, or could be tested for clinical reasons, pregnancy, newly diagnosed tuberculosis or STDs, prior to overseas assignment, within 12 months of consecutive overseas tours or upon entry to drug or alcohol treatment. If found positive, the airman is referred to the designated HIV physician and then referred to Wilford Hall Medical Center for evaluation and MEB. PH has the duties to provide HIV education to all ADAF members, maintain a list of HIV positive personnel and report to gaining bases their HIV positive personnel.

Chapter 10. Health Promotions

A. General Information

1. Program Definition and Purpose

Definition. Health Promotion (HP) is the science and art of helping people change lifestyle behaviors to move toward a balance of physical, emotional, intellectual, social, and spiritual health.

Purpose. The purpose of the Air Force Health Promotion Program (HPP) is to enhance readiness through optimal health and total force fitness while supporting accessible, cost effective, and quality health care delivery. HPPs are dedicated to health, performance enhancement, and disease/injury prevention. The goals are to increase personal performance and effectiveness as well as reduce preventable illness and injuries for Air Force people and their families. The identification and reduction of individual, family, unit, and group modifiable health risks, through effective teaming with other professionals, forms the basis of Air Force HPPs.

2. Health Promotion Programs (HPPs)

HPPs include, as a minimum, the following awareness, education, and intervention core programs:

- Health Evaluation Assessment Review (HEAR) in conjunction with the Preventive Health Assessment (PHA) to address both wellness perceptions and health risks;
- Early intervention for increasing personal performance and minimizing health risks;
- Cycle ergometry fitness assessment and exercise prescriptions;
- Fitness enhancement and conditioning;
- Tobacco cessation, prevention, and deglamorization;
- Drug and alcohol abuse awareness and prevention;
- General nutrition for all ages;
- Injury and disease risk education; and
- Stress management and prevention.

Air Force HPPs are generally offered within the Health and Wellness Center (HAWC), but are not restricted to the HAWC. Worksite wellness and community-based HPP programs are also offered.

3. Responsibilities

The Wing Commander:

- Chairs (or designates an alternate to chair) the Health Promotion Working Group (HPWG). The HPWG (meeting at least quarterly) should develop a focused, integrated and comprehensive installation HPP.
- Must allocate sufficient Defense Health Program (DHP) funding to support effective HPP operations.

- Must allocate sufficient appropriated funding and staffing resources to support effective HAWC operations.
- In conjunction with the MDG/CC and Installation Commander, must ensure adequate and qualified staff is assigned to the HAWC. Staffing as a minimum should include one Health Promotion Manager (HPM), one medical technician (two if base total force population is greater than 6,000), one exercise physiologist, and one information manager.
- Should review metric data prior to submission to the Major Command (MAJCOM).

The Medical Group Commander (MDG/CC):

- Must allocate sufficient Defense Health Program (DHP) funding to support effective HPP operations
- In conjunction with the Installation Commander, must ensure adequate and qualified staff is assigned to the HAWC.

The Chief, Aerospace Medicine (MTF/SGP):

- Provides and executes all aerospace medicine activities with an integrated team approach that includes officers and enlisted Flight Medicine, Physiological Training, Bioenvironmental Engineering, Public Health, Health Promotion, and Medical Readiness personnel. These personnel collectively comprise Team Aerospace.
- Coordinates with Public Health (PH), Bioenvironmental Engineering Science (BES), Health Promotion (HP), and Flight Medicine/PES on disease and injury prevention health surveillance activities, and occupational health programs.
- Directs base-wide HP activities.
- Collaborates with base operations and mobility planners to incorporate preventive medicine activities into the war mobilization plan.

The Health Promotion Manager:

- Manages, plans (including budget development), and conducts the installation HPP.
- Provides tailored marketing and communication functions, lifestyle modification, and support programs.
- Reviews and forwards metric data, as defined in AFRD 40-1.
- Provides HPP activity and outcome-based data to the aerospace medicine team and the HPWG, which serves as a basis for establishing disease prevention and health promotion priorities.
- Serves as co-chairperson of the HPWG.
- Actively participates in the Integrated Delivery System (IDS) and the Medical Treatment Facility (MTF) Population Health Working Group (PHWG).
- Establishes liaison with supporting installation medical personnel and other community agencies to ensure an integrated disease prevention and health promotion program. The Community Action Information Board (CAIB) can be considered as a mechanism to contribute at the Wing level.

References

AFI 40-101 *Health Promotion Program*
AFI 48-101 *Aerospace Medical Operations*
2003 HSI Checklist, *In-Garrison Medical Operations*
2003 HSI Checklist, *Executive Leadership*

B. Population Health Assessment

1. Program Definition and Purpose

Definition. Health Promotion (HP) is the science and art of helping people change lifestyle behaviours to move toward a balance of physical, emotional, intellectual, social, and spiritual health. Population Health Assessment are the collective tools utilized to determine the medical needs of the local community, the effect of varying programs, and where medical dollars are best spent. The Prevention Committee should use real data to prioritize, implement, and evaluate prevention activities.

Purpose. Given the significant potential for overlap in providing prevention programs to a base population, each medical treatment facility (MTF) must work closely with their installation's Human Services Integrated Delivery System (IDS) in developing a plan for a healthier community. Putting Prevention into Practice (PPIP) affects clinical outcomes for the population by emphasizing prevention by clinical providers and medical support staff. Health and Wellness Centers (HAWCs) are a primary source of assessment, awareness, and intervention programs to improve overall health and fitness.

2. Population Health Assessment Programs

Base-wide health assessment should consider, at a minimum, the following areas:

- The mission of the base,
- Anticipated medical manning losses or gains,
- Increases or decreases in civilian or active duty work force,
- Population served by the prevention program,
- Demographics of those served, and
- Specific causes of illness, injury, medical retirement, and death.

The primary tools utilized to assess the population are the Health Enrollment Assessment Review (HEAR) and the Preventive Health Assessment (PHA). Both are used to assist in identifying patient needs and to create extensive databases for developing effective programs.

HEAR is a self-reporting health assessment survey administered to those 17 years of age and older that enroll in TRICARE Prime and takes about 20 minutes to complete. The survey questions cover demographics, physical activity, men's health, cholesterol status, alcohol use, mental health, activity limitations, life satisfaction/family conflict, blood pressure status, women's health, tobacco use, preventive issues, stress, absenteeism, medical care history, and chronic conditions. Analysis of the questionnaire can reveal an individual's health risk factors and

preventive care needs, identify individuals who are likely to require high levels of medical resources, and disclose the appropriate training and expertise level required for the effective management of an individual's health care.

The PHA is an improved method of applying physical standards to the active duty force, and is a significant link in the PPIP initiative. It has evolved from the periodic physical examination program, focused physical examination, and Preventive Health Physical (PHP) initiatives. The PHA is further evolving into the Preventive Individual Medical Readiness (PIMR) program.

3. Tips For Success

- a. Population health activities should be effectively planned, implemented, and overseen; sound epidemiological principles must be applied to evaluate population health assessment results by the population health workgroup activities.
- b. Primary Care Manager (PCM) teams must complete the annual PHA, including the following:
 - Reviewing and accomplishing all IMR requirements, and
 - Reviewing health history, medical record, and health risk assessment (HEAR or PIMR generated HRA).
- c. Air Force Form 1480A/DD Form 2766 must be updated during the PHA, and:
 - PIMR statistics on the P2R2 website should be tracked monthly,
 - The overall IMR rate should be greater than 65 percent, and
 - Composite rates (dental, immunizations, labs, and health records review [HRR]) should also each be greater than 90 percent.
- d. Individual unit and overall installation compliance rates must be reported to the medical unit commander and other installation commanders, as appropriate.
- e. Persistent problems with compliance should be elevated through the medical chain-of-command for assistance and appropriate supporting action.

References

AFPAM 44-155, Implementing Put Prevention Into Practice
AFPD 40-1 Health Promotion
AFI 40-101 Health Promotion Program
2003 HSI Checklist, In-Garrison Medical Operations
2003 HSI Checklist, Expeditionary Medical Operations

C. Nutrition Education Program

1. Program Definition and Purpose

Definition. Nutrition education includes diet counselling for the Air Force Weight Management Program (WMP); outpatient diet clinic counselling to active duty members, retirees, and their beneficiaries; the multi-agency Check It Out program in installation Air Force-operated food facilities; and educating Basic Military Training School (BMTS), Officers' Training School (OTS), and professional military training attendees.

Purpose. Nutrition education is a major component of Air Force Health Promotion. It encourages healthy lifestyles that contribute to improved operational readiness, and total fitness and optimal health of Air Force people.

2. Nutrition Education Programs

Air Force Weight Management Program. Each medical treatment facility (MTF) Nutritional Medicine Service (NMS) provides initial and follow-up weight management counselling to individuals mandatorily placed on the weight management program. Patients will receive AFPAM 44-132, *Calorie Restricted Diets for Weight Reduction*; AFPAM 44-133, *Improving Eating Habits*; and AFPAM 44-125, *Good Eating: A Dieter's Guide*. AF Form 3529 (EF-V1), *Food/Exercise Diary*, will be used to teach patients self-monitoring of food intake and exercise. The Air Force encourages patients to return to the Nutrition Clinic for weigh-ins, one-on-one counselling, and quarterly follow-up classes.

Outpatient Nutrition Clinics. Each MTF will arrange for an authorized diet counsellor (a registered dietician or authorized diet therapist; or, in their absence, another individual authorized by the major command (MAJCOM) consultant dietician) to provide diet counselling. MTF's will make available food models, Air Force pamphlets in the AFP 166 and AFPAM 44 series, other appropriate patient education materials, and a private counselling area available to enhance patient learning.

Check It Out Program. Check It Out is the Air Force-wide nutrition education program in installation Air Force-operated food facilities. It provides individuals with the knowledge and skill to identify, select, and prepare healthier food options. The managers of these facilities will identify healthier food choices by the logo of a red lightening bolt in a blue square box. Non-appropriated fund (NAF) activities providing table service may have printed menus with a subdued logo. On a regular basis, posters, table tents, and master copies of customer handouts will be distributed to food facilities. Some materials may be produced locally.

a. *Nutrient Information.* This nutrition education program will consist of providing the fat, calorie, and cholesterol content for the specified portions of the healthier food choice items at the point where they are served. Customers can make informed choices about which foods to choose. Selecting one item identified as a healthier food choice from each menu category, for example, entree, vegetable, salad, dessert, will provide the customer a reduced calorie meal with less than 30 percent of the total calories from fat. These menus also will be suitable for weight reduction. The Air Force encourages managers to identify the nutrients in all food items to allow comparisons, if resources permit.

b. *Criteria.* Healthier food choices are those food items that meet the *Dietary Guidelines for Americans*. The entrees can be meat or meat substitutes, cold plates or sandwiches. Food preparation techniques should also conform to the *Dietary Guidelines for Americans*.

c. *Training.* Installation food facility employees will be trained in such topics as: the importance of portion control in restricting fat and calorie intake, easy recipe modifications to prepare good tasting, reduced fat products, and how to market the Check It Out program.

Professional Military Education Courses. Everyone attending BMTS and OTS, as well as other professional military and technical training courses, will receive nutrition information to maintain health and fitness.

3. Responsibilities

Nutrition education programs (e.g., NCI's "5-a-Day" Program, the FDA Food Labelling Program, and the AF "Check It Out" program) or general nutrition classes may be offered by the Health Promotions Manager (HPM), registered dietitian, diet therapy craftsman, medical professionals, and other qualified personnel. Efforts are meant to complement those of Services (SV) food facilities. Qualified Health and Wellness Center (HAWC) staff will serve as a resource to the SV dining facility managers on issues related to the AF healthy food choices identification program, "Check It Out," and provide requested dining facility staff training as time permits. HPMs will forward copies of the completed "Check It Out" checklists, after presentation at the Health Promotions Working Group (HPWG) by the SV representative, to the MAJCOM Dietician. WMP nutrition counselling may be conducted in the HAWC, in accordance with AFI 40-502, *Weight Management Program*, AFI 44-135, *Clinical Dietetics*, and AFI 40-104, *Nutrition Education guidelines*. All prescriptive diets (e.g., 2000 calorie ADA, 40 gm protein, etc.) must be accomplished by the appropriately registered or certified personnel in accordance with AFI 44-135, *Clinical Dietetics*.

4. Tips For Success

- a. Nutrition education should be integrated into other lifestyle modification programs (e.g., substance abuse, tobacco cessation, preventive health assessments, etc.) where appropriate.
- b. The MAJCOM Consultant Dietitian must certify all nutrition counselors to perform nutrition counseling.
- c. Nutritional counselors should provide location-specific training whenever necessary to accomplish the local mission.

References

AFI 40-104 Nutrition Education
AFI 40-101 Health Promotion Program
AFI 34-239 Food Service Management Program
2003 HSI Checklist, In-Garrison Medical Operations

D. Fitness Enhancement Program

1. Program Purpose

All members of the Air Force must be physically fit to support the increasing and changing requirements of the Air Force mission. Cardiopulmonary (aerobic) fitness

is the single best indicator of total physical fitness. Health benefits from an active lifestyle will increase productivity, maintain a higher level of readiness, and decrease health-related expenditures. The goal of the Air Force Fitness Program is to motivate all members to participate in a year round physical conditioning program emphasizing total fitness to meet mission requirements and deliver a fit and healthy force and community. Members are given the information needed to develop physical conditioning programs and are expected to maintain an adequate level of physical fitness at all times. The aerobic fitness level of each Air Force member is assessed at least every 12 months to ensure compliance with the Air Force Fitness Program. The assessment of upper and lower body and abdominal muscle strength and endurance will be accomplished in accordance with developed guidelines. The results provide commanders with a tool to assist in the determination of the overall fitness of their military personnel.

2. Fitness Enhancement Program

Components. The current Air Force Fitness Program is comprised of three primary elements:

- a. *Achievement and maintenance* of a physically active lifestyle; this is the individual Air Force member's responsibility.
- b. *Assessment* of the level of aerobic fitness by submaximal cycle ergometry and an assessment of muscular strength and endurance is required annually for all members. This is the responsibility of the Unit Fitness Program Manager (UFPM) and the member.
- c. *Physical fitness improvement* is the responsibility of the entire fitness team which includes the member, Wing Commander or equivalent, unit commander, Fitness Program Manager (FPM), medical, and Services personnel.

Failure to accomplish a scheduled annual fitness assessment may result in administrative action.

Waiver from Annual Fitness Testing. Members assigned to units such as Base Realignment and Closure (BRAC) bases may be waived from fitness testing by the Wing Commander or equivalent. Commanders, Superintendents, or Commandants of units such as the United States Air Force Academy, Basic Military Training School, Advanced Technical Training Centers, Undergraduate Pilot and Navigator Training Centers, Officer Training School, and/or Reserve Officers Training Corps may exempt the students and/or cadets in their units from fitness testing. The waiver does not apply to permanent party members (instructors) assigned to the training units.

Commander Directed Exemption from Fitness Assessments. Commanders, in consultation with FPMs (and Medical Liaison Officers (MLO's) as needed), may exempt members not meeting the fitness standard, that demonstrate participation in a physical conditioning program, from repeated fitness assessments in accordance with section 3.7 of AFI 40-501, *The Air Force Fitness Program*. Exempted members must be actively participating in fitness conditioning programs and document continued participation on AF Form 1975, *Personal Fitness Progress Chart*. All exemptions must specify beginning and ending dates, and may not exceed one year in length.

Medical Exemption from Fitness Assessments. Only the designated MLO may authorize a medical exemption for members with medical conditions preventing them from accomplishing a fitness assessment or participating in physical conditioning programs. Health care providers may recommend members to the MLO for medical exemption. Medical conditions requiring medical exemption from fitness assessment do not require a Medical Evaluation Board (MEB) unless required under AFI 48-123, *Medical Exams and Standards*. However, whenever physically possible, these members must actively engage in fitness conditioning programs and document continued participation on AF Form 1975, *Personal Fitness Progress Chart*. Members may be exempted from fitness assessments, but not automatically exempted from engaging in a regular fitness conditioning program. Members will be exempted from fitness assessments during pregnancy and for six months after return to full duty. Fitness assessment exemptions following pregnancies less than term will be determined by the MLO in conjunction with the woman's health care provider. Fitness conditioning programs during pregnancy exemption are encouraged. Medical exemptions will last no longer than one year, with the exception of pregnancy exemptions. All exemptions require re-evaluation by the MLO prior to renewal.

Note. Waivers apply to units whereas exemptions apply to individual members.

3. Responsibilities

The Medical Group Commander (MDG/CC):

- Provides appropriate medical and support staff to conduct the fitness program at all levels.
- Appoints a medical provider to act as MLO and medical advisor to commanders and the FPM. The MLO is preferably a physician, trained or experienced in: health promotion, disease prevention, sports medicine, and/or physical standards.
- Ensures all Health and Wellness Center (HAWC) military members meet minimum AF fitness and weight standards.
- Provides annual funding for fitness-related continuing education for the MLO and HPM.

The Aerospace Medicine Squadron Commander (AMDS/CC) or Medical Operations Squadron Commander (MDOS/CC):

- In the absence of a FPM, appoints a designated representative with similar qualifications in the area of exercise physiology/science.
- Chief, Aerospace Medicine provides oversight of MLO for medical evaluations, medical waivers, and physical standards.
- Ensures fitness program education and training of the medical professional staff is accomplished by the MLO and FPM at least annually.

4. Tips For Success

Fitness Assessment and Total Fitness Enhancement

- a. The Health Promotion Working Group (HPWG) and the Health Promotion Manager (HPM), using a team approach among services personnel, should

actively encourage base-wide participation in a variety of fitness enhancement programs.

- b. The medical unit commander must appoint a medical provider to act as medical liaison and advisor for the installation fitness program as outlined in AFI 40-501, *Air Force Fitness Program*.
- c. The HAWC staff/HPM should collaborate with the fitness center director to provide marketing, fitness testing, weight/body fat management program staffing, and equipment procurement.
- d. All installation newcomers should receive a HAWC orientation.
- e. A FPM must be available to provide oversight and consultation to members and commanders.

The Fitness Program Manager (FPM):

- Should be a qualified fitness professional and certified health fitness instructor.
- Should maintain a current fitness database for the installation.
- Should develop an annual installation fitness assessment schedule based on proposed unit deployment schedules to ensure all units have adequate amounts of time to accomplish testing by the end of the year.
- Should ensure members of waived Geographically Separated Units (GSU's), within their responsibility for testing and reporting, are entered into the fitness database as waived.
- Should counsel individuals exempted from fitness assessments.
- Should assist members in development of a conditioning program and develop fitness improvement programs for members not meeting the standards.
- Should provide initial fitness counselling and ensure monitoring for all members enrolled in the Monitored Fitness Improvement Program (MFIP).
- Should provide professional consultation and training to fitness center personnel, as requested by the fitness center director.
- Should assist active duty members in developing individual fitness training regimens.
- Must coordinate with the installation service commander to provide safe and effective aerobic fitness improvement exercise classes.
- Must notify wing, group, and unit commanders of cycle ergometry compliance on a continuous basis over the past 12 months.

The Health Promotion Manager (HPM):

- Should provide oversight for the administration of commander-directed body fat measurements in the HAWC and the execution of the exercise and dietary education portions of the Weight and Body Fat Management Program (WBFMP) for the base populace.
- Must ensure appropriate staff is trained and available to conduct official body fat measurements for any member so directed by their unit commander.
- Must ensure flexible times are available and scheduled for taking official body fat measurements and work continuously with the unit commander and unit WBFMP.

- Must ensure proper annotation of body fat measurements on AF Form 108, *Weight and Body Fat Processing*.
- Must ensure all Services augmentees are properly trained on body fat measurement procedures.
- Must establish an exercise and dietary education program at the HAWC.

References

AFI 40-101 Health Promotion Program

AFI 40-501 The Air Force Fitness Program

AFMAN 34-137 Air Force Fitness and Sports

2003 HSI Checklist, Expeditionary Medical Operations

E. Cardiovascular Disease, Cancer, and Other Preventive Efforts

1. Responsibilities

Based on established priorities, the Health Promotion Manager (HPM) conducts public information and social marketing campaigns on cardiovascular and cancer prevention, dental health and prevention, injury (on and off duty) reduction, and other locally identified preventive efforts. Data derived from tools such as the Health Enrollment Assessment Review (HEAR) questionnaire and Behavioral Health Survey (BHS) are used by the Health Promotions Manager (HPM) to identify "at-risk" groups and to provide commanders with unit level information. The HEAR is the enrollment tool for TRICARE, and the health assessment tool for the Putting Prevention into Practice (PPIP) and Preventive Health Assessment (PHA) Programs, worksite wellness assessments, and one-on-one health risk appraisal assessment. The HPM, with assistance from medical treatment facility (MTF) computer systems personnel, will query the data base to identify individuals, units, or groups for targeted intervention of modifiable health risks and to guide Health Promotion Program (HPP) development.

Referrals from providers within the MTF to the Health and Wellness Center (HAWC) and HPPs are critical for risk reduction programming. Referrals will be accomplished in accordance with local policy. Referrals to providers within the MTF from the HAWC staff are made when parameters are outside those established by local OI's. MTF OI's and HPP OI's identify processes for follow-up to measure outcome.

Worksite wellness programs increase awareness and offer intervention opportunities. The HPM will coordinate visits to worksites by HAWC staff, to provide HP awareness/education, in conjunction with existing public health, flight medicine, and bioenvironmental engineering worksite visit schedules. Worksites should be visited semi-annually.

2. Tips For Success

- a. Strategies should be based on established priorities such as a needs assessment, Health Enrollment Assessment Review (HEAR) data, or another Air Force Medical Service approved healthcare benchmark.

- b. The HPM should coordinate and conduct public information and social marketing campaigns on cardiovascular disease and cancer prevention, injury reduction, and other preventive efforts based on regular health assessments.
- c. Efforts should be targeted at populations that have been identified as being "at-risk".

References

AFI 40-101 Health Promotion Program
2003 HSI Checklist, In-Garrison Medical Operations

F. Stress Management

1. Program Definition and Purpose

Definition. Organizational, environmental, and personal stresses impact the health of the individual as well as the productivity and cost to the institution. Programs to identify, prevent, and reduce stress are offered at each installation by personnel trained in stress management.

Purpose. The Air Force will emphasize stress management at all organizational levels and will use scientifically supported techniques of stress management in its health promotion programs.

2. Stress Management Programs

In the realm of stress management, Air Force guidance points to the Health Promotions Manager (HPM) providing primarily administrative support and assisting the Life Skills Support Center (LSSC) in assessing available data to plan and implement stress management programs and education. Many Health and Wellness Centers (HAWCs) have devoted a small room within their facility as a "stress-free" zone. Furnishings often include a massage chair, quiet music, subdued lighting, and various videos, books, and pamphlets on stress management.

3. Responsibilities

The Integrated Delivery System (IDS) chairperson is responsible for coordination of all base stress management/prevention programs and ensures that program quality control and expert review are accomplished as needed.

The HPM supports stress management program administration.

4. Tips for Success

- a. Stress management should be emphasized at all organizational levels (e.g., commanders, supervisors, and subordinates) regarding organizational and environmental stressors and their impact on health.
- b. Programs to identify, manage, and reduce stress should be offered by personnel trained in stress management.
- c. Expert review of stress management programs should be conducted by a qualified person trained in behavioral health.

References

AFPD 40-1 Health Promotion
AFI 40-101 Health Promotion Program
2003 HSI Checklist, In-Garrison Medical Operations

G. Alcohol and Substance Abuse Prevention

1. Program Definition and Purpose

Definition. Effects of alcohol misuse and illicit drug abuse on health include impaired thinking and reacting and are significant contributors to morbidity and mortality. Alcohol and substance abuse is also responsible for inappropriate behavior and overall increased health care costs.

Purpose. In regard to alcohol use, the Air Force will promote responsible behavior. Specifically, the Air Force will encourage abstinence from alcohol during pregnancy; strive to eliminate driving under the influence; will encourage moderation in alcohol consumption, and eliminate programs that encourage alcohol use. The Air Force will not tolerate illegal substance abuse and will continue to educate all personnel regarding the health and career/administrative risks associated with such use. Leniency may be extended to those personnel who self identify as having a substance abuse problem.

2. Responsibilities

The Mental Health (MH) or Life Skills Center representative to the Health Promotions Working Group (HPWG) and Integrated Delivery System (IDS), in conjunction with the Health Promotions Manager (HPM), will assess available data to plan and implement substance abuse prevention and harm reduction activities. Substance abuse and harm reduction education and prevention programs are planned and evaluated by trained MH personnel. Program implementation and administration efforts by the MH personnel are actively supported by the HPM.

Community Prevention of Substance Abuse (IG.2.4.3) specifies that substance abuse prevention services are a collaborative effort within the IDS (of which the HPWG is a sub-component) and include Health and Wellness Center (HAWC) and Life Skills Support Center (LSSC) efforts. For the HAWC these efforts generally center on alcohol awareness and tobacco cessation. Depending on HAWC personnel experience and training, and LSSC support, HAWC members are encouraged to expand their role in other forms of substance abuse awareness and education.

3. Tips for Success

- a. Health promotion personnel should support alcohol and substance abuse prevention awareness and education programs.
- b. Health promotion, mental health and substance abuse personnel should identify and utilize referral agencies and prevention programs, both on and off base.

- c. Health promotion and substance abuse personnel must work cooperatively to ensure sound education and prevention/awareness programs and initiatives are integrated into the community through a variety of modalities and agencies.

References

AFPD 40-1 Health Promotion

AFI 40-101 Health Promotion Program

2003 HSI Checklist, In-Garrison Medical Operations

H. Tobacco Use Cessation and Prevention

1. Program Definition and Purpose

Definition. The Air Force discourages the use of all tobacco products. The ill effects of tobacco use are well documented.

Purpose. The Air Force's goal is to be tobacco free. To discourage the use of tobacco products, the Air Force will expand tobacco cessation programs, restrict tobacco use in the workplace, and initiate other strategies to terminate tobacco use by Air Force personnel.

2. Tobacco Use Cessation and Prevention Programs

While AFI 40-102 (Tobacco Use in the Air Force) provides detailed guidance, the more common restrictions include the prohibition of smoking (cigar, cigarette, and pipe) and the use of smokeless (spit/loose tobacco) products in the workplace, within all vehicles, and aboard all aircraft. Tobacco use is permitted in designated areas and installation and/or squadron commanders should, whenever possible, designate outdoor tobacco use areas, which are reasonably accessible and provide some protection from the elements. Also, the Air Force recognizes equal work breaks (when these breaks are permitted) for tobacco users and non-users alike.

3. Responsibilities

The Chief of Staff provides guidance on the use of tobacco products (spit tobacco, defined by the Center for Disease Control and Prevention [CDC] to be loose tobacco used by "dippers" and "chewers") and all types of smoking tobacco, to include cigars in Air Force facilities.

Medical treatment facility commanders (MTF/CC) ensure tobacco product cessation classes are provided to active duty members, family members, and retirees. Cessation classes are also made available to employees of the federal government on a space available basis. All medical cessation programs are administered under the Health and Wellness Center (HAWC).

Medical care providers ask individuals about tobacco use history at every encounter and dental care providers ask individuals about tobacco use history at every annual examination, as a minimum. Medical and dental providers and/or Primary Care Manager (PCM) team members will furnish pertinent professional advice to every tobacco user, using the guidelines in the Smoking Cessation Clinical Practice

Guideline (AHCPR Pub # 96-0692) published by the US Department of Health and Human Services. For those individuals desiring a cessation program, providers and PCM teams will facilitate referrals to health promotion personnel.

Fitness Assessment Monitors will query members about tobacco use at the time of their fitness evaluation. Health promotion personnel will review and track installation tobacco use data and use it to guide implementation of programs.

4. Tips for Success

- a. Tobacco use cessation/prevention interventions should be offered for military and civilians at least quarterly, during and after duty hours.
- b. Tobacco cessation interventions should be offered to geographically separated personnel (e.g., AFIT, AFROTC, and recruiters).
- c. Personnel providing formal tobacco cessation classes should be appropriately trained.
- d. Programs should be developed to discourage initial tobacco use.
- e. Pharmacotherapy should be available whenever possible.
- f. Follow-up survey of "quitters" should be conducted at the 6-month post-quit point to measure program (outcome) success.

References

AFPD 40-1 Health Promotion
AFI 40-101 Health Promotion Program
AFI 40-102 Tobacco Use in the Air Force
2003 HSI Checklist, In-Garrison Medical Operations

Chapter 11. Occupational Health and Safety

A. Clinical Occupational Medicine - Fitness and Risk Evaluation

1. Purpose

A successful Occupational Health Program (OHP) will maximize mission effectiveness by protecting human resources, reducing costs, and improving performance. Part of the OHP is the Civilian Fitness for Duty or Fitness and Risk Evaluation exam (FFD/FRE). FFD/FREs identify individuals who, if placed or maintained in a particular job, may not be able to perform the essential functions of the job, and/or may pose a safety risk to themselves or others.

2. Overview

The Air Force may require an individual who occupies a position that has medical standards or physical requirements to undergo a fitness-for-duty medical examination whenever there is a direct question about his/her continued capacity to meet the physical or medical requirements of the position. Such an examination may be ordered for instances of job-related injuries/illnesses and for those that are not job-related. For military members the FFD/FRE system is encompassed in duty restrictions, the Profile (AF 422), and the MEB system. These are covered elsewhere in the guide.

For civilians, if a question is raised as to whether an individual employee can safely carry out his/her responsibilities, the agency has a duty to inquire and determine the employee's fitness for duty. When this becomes necessary, the procedures and requirements that must be followed are found in 5 C.F.R. Part 339. If, after a full inquiry, it is determined that the employee's continued presence in the workplace may pose a danger to himself/herself or others, then the agency must decide how to proceed. The agency must first determine if it can reasonably accommodate the employee's disability.

FFD/FRE exams address the following questions:

- Continued performance of this job result in injury or deterioration of the worker's medical condition (further noise induced hearing loss, continued deterioration of repetitive strain injury)?
- Will performing the job place the individual at risk of significant health harm?
- Will allowing the individual to perform the job place someone else at risk or pose an unacceptable risk to public health?

3. Who is involved in the FFD/FRE Program

- Chief, Aerospace Medicine (SGP)
- Occupational Medicine Consultant (OMC) defined in AFI 48-145 if not the SGP.
- Occupational Health Working Group (OHWG)
- Flight Medicine
- Public Health
- Force Health Protection Element

- The worker and the worker's supervisor
- The Civilian Personnel Office (CPO)

SGP as the leader of "Team Aerospace" is responsible to assure an effective mechanism is in place to accomplish these evaluations, coordinates with the base authorities such as civilian personnel in a manner that allows the process to proceed in an efficient and effective manner. Provides oversight of the process and reports through the Aeromedical Council to the medical group executive council and the Chain of Command.

OMC assists the SGP in the above functions if not the same individual. Performs evaluations or assesses the qualifications of other Physicians to perform evaluations and oversees the quality and adequacy of the program. Monitors the program as a function of the OHWG.

Flight Medicine (FM) role: Provides support for the accomplishment of the evaluations. All flight surgeons should be encouraged/supported to attend the Occupational Medicine Course at Brooks AFB at least once.

Public Health (PH) role: Force Health Protection Element is the point of contact for agencies in the FFD/FRE process, provides administrative support, and tracks process to conclusion.

4. OHWG

Monitors the number and type of FFD/FRE exams occurring and identifies any trends in FFD/FREs. Reports to the AMC on quality and effectiveness of the program.

- a) Supervisor's role:
 - When a medically-based performance problem exists or might exist, the supervisor:
 - Informs the employee that job performance is suffering and advises the employee to supply medical documentation of any medical condition that could affect work performance.
 - Explains exactly what documentation the employee needs (5 CFR 339.104) and the amount of time employee has to provide it.
 - The supervisor and an Air Force or other federal medical officer reviews the medical documents that the employee provides. These criteria apply:
 - When the employee's job requires meeting physical or medical standards or is covered by the environmental health or bioenvironmental engineering programs, the supervisor may require the employee to report for a medical examination.
 - In any case, a management official may require or offer a psychiatric examination according to 5 CFR 339.301(e)(1)(i) and (ii). This must be coordinated in advance with the CPO.
 - When the supervisor requires or suggests a medical examination, the employee must receive a written explanation and be informed of the consequence of refusing.

- All medical examinations must comply with Title 5 CFR Part 339. The Air Force pays for or provides the medical examination.
- b) Worker's role:
- The employee supplies pertinent documentation as soon as possible after being informed of medical concerns in their performance on the job. If the employee does not provide the documentation within the specified time, the supervisor may grant more time or proceed with the action. Provision of medical documentation is voluntary.
- c) Civilian Personnel Office (CPO) role:
- CPO acts as the primary coordinating agent in the civilian FFD/FRE process. The Force Protection Element and SGP/OMC should ensure that there is close communication between the CPO and the Medical Group concerning this process.
 - The CPO will chair any management team/panel meetings for job decisions.
 - The CPO will provide the Form 78 to the FM office for the patient examination.
 - CPO acts to inform the worker and supervisor of any regulatory/legal responsibilities/implications involved in the FFD/FRE process.

5. How to do FFD/FREs Well

- The worker's supervisor requests a FFD/FRE evaluation through CPO
- CPO sends a form 78 and Job Description to the clinic where the worker will be examined
- The employee voluntarily supplies medical documentation on his/her condition
- The OH NCOIC schedules an appointment with a OMC or other approved and credentialed provider
- FREs processed through FHP.
- The OMC or other approved provider is scheduled to see the worker.
- The OMC reviews any available medical documentation and performs an occupational H&P
- The OMC assesses the presence or absence of medical impairment via records and the exam
- The OMC compares this to the job description and SF 78 requirements and most often will perform a work site visit with the supervisor and worker in attendance and will review the job description with actual job performed by worker. This is needed to assess the accuracy of the job description and to make recommendations on accommodations.
- The OMC then makes recommendations on capabilities, restrictions and accommodations
- A letter is sent to CPO along with the completed SF 78
- A SOAP note and AF 1754 (if done) remains in the employee medical record but is not relayed to the supervisor or CPO

A shop visit is almost always required to sort out the situation. It is acceptable to contact the supervisor and CPO to request a shop visit, preferably with the employee at work. It is appropriate, if there is doubt about the employee's abilities, to observe the employee at his/her usual work setting. Information obtained can then be used to complete the AF 1754, SF 78 and the narrative letter.

Attachment --, the AF Form 1754 may be used to do a Job Capability and Safety Analysis as part of the FFD/FRE. This form becomes part of the worker's medical chart.

If there are psychiatric concerns, specifically stress related problems, refer to information in Attachment 7 for appropriate work-up.

6. FFD/FRE Program Evaluation

- Metrics on FFD/FRE completion are reported through the OHWG in a timely manner (usually by the next meeting – see suggested metrics in attachment 1)

7. FFD/FRE Tools

- FFD/FRE Metrics (attachment 1)
- Form 78 Form (attachment 2)
- AF Form 1754 (attachment 3)
- FFD/FRE Checklist (attachment 4)
- FFD/FRE Letter outline (attachment 5)
- FFD/FRE Letter Sample (attachment 6)
- FFD/FRE Stress Outline (attachment 7)

References

- <http://medical.smis.doi.gov/PDF/MedRef.pdf> : OPM MEDICAL REFERENCE GUIDE FOR HUMAN RESOURCE MANAGEMENT
- 29 CFR 1960, Basic Program Elements for Federal Employees OSHA.
- DODI 6055.1, *DoD Occupational Safety and Health Program*
- DOD 6055.5-M, *Occupational Medical Surveillance Manual*
- AFI 36-1001, 1 JULY 1999, *MANAGING THE CIVILIAN PERFORMANCE PROGRAM*
- The Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12111
- The Rehabilitation Act of 1973, as amended, 29 U.S.C. § 791
- The Family and Medical Leave Act of 1993, 5 U.S.C. § 6381
- 5 CFR 339, Medical Qualification Determinations, March 8, 1989
- 29 CFR 1613.71, Equal Employment Opportunity Commission, Subpart G, Prohibition Against Discrimination Because of a Physical or Mental Handicap
- 5 CFR 630, Family and Medical Leave, May 8, 2000
- OPM - Questions and Answers Addressing Medical Documentation, January, 1998, prepared by OPM's Employee Relations and Health Services Center
- OPM - Selected Cases dealing with Medical Documentation, May, 2000, prepared by OPM's Employee Relations Division

- OPM - The Role of the Agency Medical Review Officer (MRO), March, 1996, prepared by OPM's Staffing Reinvention Office
- OPM - Family Friendly Leave - Selected Questions and Answers, June 2000

B. Clinical Occupational Medicine – Occupational Health Exams

1. Background

Team Aerospace has a major role in the AFMS mission of keeping the Air Force personnel and associated workers fit for duty. To successfully meet this objective, the Occupational Health Working Group (OHWG) members must work together in a coordinated fashion. As a team, they must identify, recognize, and control worksite hazards in an ongoing process to account for the constantly changing work environment and processes of the US Air Force. One aspect of control is medical surveillance or “special exams”. Special exams are usually thought to consider medical surveillance examinations for such items as laser exposure, lead, chromate, etc. and also the common hearing conservation and respirator protection program examinations (RPP). Worker unfortunately can suffer injuries or become ill from their interactions at the workplace. Medical care of work related issues also needs to be provided.

2. Examinations:

The practice of complete head-to-toe physicals with numerous lab tests is not only an outdated practice, but also impractical due to current fiscal and time limit constraints. The concept of a “focused” physical exam, guided by the exposures in the workplace, should be the end result of the OHWG process. This can best be done using the mindset of working with the end product in mind. In this case, one of the end products should be a user-friendly examination that adequately and reliably covers the appropriate items. This exam should be looked at as an end product because its creation is based upon the efforts of each OHWG member and begins with the shop visit program.

Bioenvironmental Engineering (BEE) – The BEE performs shop visits at a frequency determined by Risk Assessment Codes (RAC). From these visits, an AF Form 2755 *Master Workplace Exposure Data Summary* is completed which documents a narrative summary or job description, exposure data containing specific hazards, its source, sampling data, and controls. This form is kept in a BEE “case file” or shop folder specific to a worksite along with sampling results, survey findings, and any correspondence with shop supervisors.

Public Health (PH)- After the AF Form 2755 is completed, an AF Form 2766 *Clinical Occupational Health Examination Requirements* is completed and approved by the OHWG. The AF Form 2766 takes each hazard from the AF Form 2755 and lists the hazards and their specific medical examination requirements in terms of pre-placement, periodic, and termination exams. A well-documented Form 2766 should include the AFOSH and OSHA regulations that regulate the specific exam requirement as well as some justification or explanation as to how the decision was made along with any other specific guidance that could guide the medical examiner in performing a physical exam. This form, AF Form 2766 is kept in a PH folder specific to each worksite and is referenced at the time of an employee’s physical exam. However, the 2766 leaves much discretion to the provider, and requires a very high knowledge level of the provider and

significant time documenting or writing up the patient encounter. Because of these issues with the special examinations, one effective means of standardization is the creation and use of SF 600 overprints specific to a workplace. These overprints actually perform the role of translating the AF Form 2766 requirements into practical, useable language. This over print should be clear and concise and any medic should be able to understand what occurred. For example, the requirement to perform a history and physical for a chromate exposure could have under the skin section a block to reflect the presence or absence of ulcers and adequate space to describe any positive findings(chromate is known to cause skin ulcers). Well thought out overprints will greatly reduce inter-provider variability, serve as a checklist for needed functions, improve documentation, improve efficiency by shortening writing requirements, and ensure compliance with OSHA and AFOSH regulations. Please see samples in the attachment. A complete medical record for a medical surveillance examination would contain a correctly dared AF Form 2766 and SF 600 overprint.

An example of patient flow could be as follows. The patient visits with Force Health Protection to begin the annual exam. During this visit, the AF Form 2766 is reviewed and an SF 600 overprint specific to that workplace is placed in the medical record. From these two documents, any required labs or tests are ordered and/or performed. As results from these labs/tests return, they are documented on the overprint by FHP, to consolidate all the information into one location for the provider. Once everything is properly documented on the overprint, the patient is scheduled to see the provider who will review any positive history findings and perform the required exams. At the completion of the exam, the patient should return to Force Health Protection for a final record review for completeness and ensure all documentation is in order and placed in the appropriate sections of the medical record.

3. Care of Work Related Injuries and Illnesses

Workers with work related medical conditions (Active Duty and Civil Service) may be seen in the MTF. The direct responsibility for this care by flight medicine will be base specific. Flight Surgeons, Occupational Health Consultant and the SGP are seen as consultants on these issues. The civilian personnel office should be contacted to obtain the correct forms to document these events, and Public Health should be involved for correct reporting of work related illnesses, and base safety for injuries in the work place. The consultant role can be facilitated by use of the local area network(LAN).

Information on work sites and the major effects these worksites may have on workers can be placed on common “network drives” so all medical professionals will have easy access to it as they need it. The BE shop should identify all exposures over the action level and report this annually to the OHWG. Also, particularly concerning chemicals (hydrazine) or other exposures that are below the action level, but in an accident could be a major issues should be reported to the OHWG. This information should be on the LAN as well as recommend procedures to be followed in an exposure.

4. MTF/SGP

Chief of Aerospace Medicine (SGP): The SGP performs multiple roles in the medical care of workers. First, he should be one of the key members doing shop visits, and assessing the quality and adequacy of this important process. Often the chair of the OHWG, that individual provides professional oversight along with the

BEE in determining appropriate controls and with PH in determining any necessary occupational exam requirements. This information is used to generate an AF Form 2766. Finally as the OHWG chairman, he/she is responsible for monitoring the professional quality of the occupational exams. This can best be done by performing some such physicals, and with chart reviews etc. to ensure the process of data collection from the shop visit, through the OHWG to the generation of the AF Form 2766, shop specific over print for the provider is accurate and understandable.

5. Summary

Maintaining a healthy workforce is vital to ensuring the US Air Force can meet its mission requirements. A user-friendly, concise but complete Occupational Exam as one of the products of an effective OHWG committee is essential to monitoring the health of the Air Force workforce. The creation and use of SF 600 Overprints to standardize care between providers is one tool that demonstrates the success of the OHWG working in a coherent fashion. For this to occur, each member must play an active, but coordinated role in performing their specific mission.

References

- AFI 48-145 *Occupational Health Program*
- AFI 91-301 *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*
- AFOSH STD 48-8 *Controlling Exposures to Hazardous Material*
- AFOSH STD 48-21 *Hazard Communication*
- AFOSH STD 48-137 *Respirator Protection Program*
- AFOSH STD 91-31 *Personal Protective Equipment*
- AFD 91-3 *Occupational Safety and Health*
- 29 CFR 1910.146 *Confined Spaces*
- <http://www.osha.gov>
- Sample SF 600 Workplace Medical Surveillance Physical Sheet

C. Medical Unit Employee Health and Safety Programs

1. Introduction

As the title implies, this section will specifically focus on occupational hazards within the clinic, hospital, or medical center. Although the majority of the topics mentioned here also represent general public health concerns or occupational medicine hazards in non-medical work centers, the SGP roles and program responsibilities as they pertain to these problems outside the medical unit are covered elsewhere in this handbook.

2. Infection Control Program

The overall goal of a medical unit's infection control program (ICP) is to prevent, or control, nosocomial and clinic-acquired infections among patients, visitors, and staff. The program applies to all medical service personnel (active duty, civilians, volunteers, guard, reserves, etc.), and involves nearly every activity within the medical and dental treatment facilities as well as the aeromedical evacuation system. The ICP complies with and implements Joint Commission on Accreditation of

Healthcare Organizations (JCAHO) standards, Occupational Safety and Health Administration (OSHA) regulations, Centers for Disease Control (CDC) guidelines, as well as those of other key regulatory agencies.

As mentioned above, infection control is the responsibility of all MTF personnel and the program gets plenty of attention during JCAHO inspections and HSI's. An infection control committee (or an infection control review function) meets at least quarterly and is a multidisciplinary group that coordinates all activities related to the surveillance, prevention, and control of infections. A few of the many areas of concern under the ICP include isolation precautions, prevention of surgical site infections, use of antiseptics and disinfectants, storage of clean and sterile supplies, disposal of medical waste, and cleaning and handling of linens. An infection control officer is appointed to monitor the unit's ICP. He or she attends a formal course at Sheppard AFB before (or shortly after) assuming the role, and is responsible for drafting the MTF infection control Instruction and the infection control Annual Plan.

Among the numerous responsibilities of the SGP under the ICP are the following:

- Ensuring clinical personnel in Team Aerospace follow ICP guidance relating to patient care and the handling of medical supplies, equipment, and waste. Comments on this issue through the Aeromedical Council.
- Provides professional oversight of the public health office as they relate to the ICP. The PH office provides regular reports to the infection control committee on health status and disease monitoring in the employee health program, on occupational exposures to blood and body fluids and other infectious diseases, and on immunization status of MTF employees. PH also works with the infection control officer to investigate disease outbreaks within the MTF.
- Provides professional oversight of the bioenvironmental engineering office as they relate to the ICP. These typically include managing the respiratory protection fit-testing for MTF personnel as part of the Tuberculosis Prevention and Control Program, and performing ventilation surveys (air exchanges and air flow studies) for surgical suites and similar areas as directed by MTF Instruction.

Obviously, the ICP is a very important MTF-wide program. For additional information talk to your unit infection control officer and your PH and BEE folks. You should also read AFI 44-108, Infection Control Program, and your MTF's Instruction and Annual Plan.

3. Communicable Disease in Medical Workers

This topic partially overlaps the infection control program discussed above, but would also concern the potential spread of diseases to patients and other medical personnel that are contracted by medical workers while outside, as well as inside, the MTF. Medical personnel are at increased exposure risk for various diseases, and frequently work with patients in weakened states or with impaired immune function. These types of factors bring added importance to screening and monitoring communicable diseases in healthcare workers. Further, "communicable disease monitoring in medical unit workers" is a specific inspection item during HSI's.

The SGP role in this area (other than the general awareness, vigilance, and surveillance expected of all MTF personnel) is to incorporate this program in the overall Team Aerospace program and to monitor/supervise the roles and responsibilities of the public health flight in this effort. For example, medical unit personnel must all be screened for communicable diseases prior to starting work. Annual HIV testing for exposure-prone and high risk health workers, as well as monitoring hepatitis B status of these workers are also required activities. Other important aspects of the program include establishing mechanisms to identify, duty restrict, and reinstate medical workers after acquiring communicable illnesses. Public Health also documents and reports medical worker communicable disease surveillance data to the infection control committee on a regular or as needed basis.

Additional information is available in AFI 44-108 and in Element IG.2.1.4 of the HSI Guide (Communicable Disease Monitoring in Medical Unit Workers). Public health and infection control personnel can also answer questions about this program.

4. Hospital/Occupational Exposure to TB Prevention Program

Guidance for the TB Detection and Control Program can be found in AFI 48-115 and Element EX.1.7.7 and IG. 2.1.7, and of the HSI Guide (documents entitled “Tuberculosis Detection and Control Program”). Some issues raised in 48-115 have been superseded by more up to date CDC guidance. TB poses an occupational exposure risk among medical unit workers, and needs to be addressed.

In addition to SGP roles mentioned above under the Infection Control Program, the Public Health office has specific requirements to work with the Infection Control Committee to ensure compliance with OSHA guidelines for control of occupational exposure to tuberculosis. Also, MTF personnel are required to have annual tuberculosis skin tests; and those in particularly high-risk area (as defined by CDC guidelines) are tested every 6 months. PH at each base is required to send an Annual Report of the Tuberculosis Detection and Control Program to MAJCOM in early January, although there seems to be no specific report required as to medical workers among those detected or treated.

5. Blood borne Pathogens Protection

This area falls under both the Infection Control Program and the Communicable Disease in Medical Workers sections discussed above, with coordination between the infection control officer, public health, and the SGP being the key to program success. AFI 44-108 mentions personal protective attire/equipment required by OSHA standards and references are provided for various kinds of exposure workups. In addition, Element IG.2.1.5 of the HSI Guide (Medical Unit Blood borne Pathogens Program) provides a list of inspection criteria used during an HSI.

The SGP should ensure there is a written exposure control plan for the unit, which is reviewed annually. All employees, volunteers, contractors, and trainees are classified into high-risk or exposure-prone categories, and receive initial and annual training on blood borne pathogens. Other elements of the program include Hepatitis B immunizations given (and documented) to each worker, and any exposure incidents

are appropriately treated, documented, and followed up. A procedure for prompt post exposure prophylaxis for exposure to HIV needs to be in place.

For further details on this program, contact your infection control or public health officer, and review AFI 44-108, Infection Control Program, and Element IG.2.1.5 of the HSI Guide.

6. Microwave and other Radio Frequency Radiation:

Microwaves are electromagnetic radiation within the range of radio waves, generally defined as having frequencies of 300MHz and above. Not surprisingly, the military uses a wide range of radio frequency emitters for communications, ground- and aircraft-based radar systems, and in electronic countermeasures systems. Hazard potential associated with radio frequency radiation (RFR) emitters depend on such variables as wavelength, power and duration of the output, and the location or “accessibility (i.e., the proximity) of the emitter to humans.

The BEEs are tasked with evaluating and tracking all RFR emitters, and conduct baseline and annual surveys on each device or system capable of exceeding established “permissible exposure limits.” They also evaluate control methods in place in the work centers to ensure adequate steps have been taken to protect the health of Air Force workers and the general public. Surveys and associated testing look at power output, check for RF leakage, posting of appropriate warning signs or area restrictive devices, and awareness of ops and maintenance personnel of the hazards and potential health effects of the RF emissions. This documentation is kept on file for each emitter, and is an HSI item.

Typically the RFR emitters of primary concern within medical units are diathermy devices used in some physical therapy departments as a source of deep heat treatment. Several RF frequencies (two in the short-wave range and one in the microwave range) are common in diathermy treatment. Exposure of physical therapy personnel to the RF emissions, particularly due to improperly functioning units, is the main occupational concern.

Of note, microwave ovens for food preparation (regardless of location on base) do not require routine monitoring by the BEE shop. Ovens damaged, or otherwise suspected of leaking, should be reported to public health and removed from service pending BEE testing. Those found leaking more than $5\text{mW}/\text{cm}^2$ must be repaired and retested before being placed back in service. For additional details on PH/BEE coordination, as well as specific reporting requirements, see AFOSH Standard 48-9, Radio Frequency Radiation Safety Program, paragraph A4.9 or talk to your PH and BEE offices.

7. Lasers:

As with RFR emissions discussed above, lasers are used for a variety of purposes throughout the military and, depending on the specific laser and use, can potentially pose serious health hazards. Typical laser uses range from small, handheld “pointers” used during briefings, to various industrial and laboratory applications, to munitions targeting systems and as potential weapons themselves. Within the medical unit

lasers are used for certain surgical procedures, where the possibility of injuries from inadvertent exposure (including exposure from reflections off other surgical equipment) are fairly obvious.

The BEE office conducts health hazard evaluations for all new laser operations on the base, and additional evaluations when equipment changes occur or any time a modification occurs that might alter the potential hazard to personnel. They determine the laser class, exposure limits, hazard distances/zones, and recommend appropriate controls and safeguards to the commander involved. They also evaluate and report any suspected inadvertent exposures in coordination with the occupational health, public health, and base safety offices. Documentation for this program, as for the RFR emissions above, needs to be properly maintained and is reviewed during an HSI. See AFOSHSTD 48-139, Laser Radiation Protection Program, or talk to your BEE for additional information.

References:

- AFI 44-108, *Infection Control Program*, 1 Jul 00
- AFD 48-1, *Aerospace Medical Program*, 22 Jul 93
- AFOSH Standard 48-9, *Radio Frequency Radiation (RFR) Safety Program*, 1 Aug 97
- AFI 48-101, *Aerospace Medical Operations*, 11 Jul 94
- AFI 48-115, *The Tuberculosis Detection and Control Program*, 29 Jun 94
- AFOSH Standard 48-139, *Laser Radiation Protection Program*, 10 Dec 99
- AFI 48-145, *Occupational Health Program*, 1 Apr 99
- AFOSH Standard 91-8, *Medical Facilities*, 1 Oct 98
- HSI Guide, Element EX.1.6.7, (Formerly OPS.3.2.6 and OPS.3.2.7) *Identification, Evaluation and Control of Other Hazards*, Jan 03
- HSI Guide, Element EX.1.6.9, *Occupational Epidemiology*, Jan 03
- HSI Guide, Element EX.1.7.7, *Tuberculosis Detection and Control Program*, Jan 03
- HSI Guide, Element IG. 2.1.7, *Tuberculosis Detection and Control Program*, Jan 03
- HSI Guide, Element EX.1.7.8, *Epidemiology and Control of Communicable Diseases*, Jan 03
- HSI Guide, Element IG.2.1.4, (Formerly OPS.3.4.3), *Communicable Disease Monitoring in Medical Unit Workers*, Jan 03
- HSI Guide, Element IG.2.1.5, (Formerly OPS.3.4.1), *Medical Unit Blood borne Pathogen Program*, Jan 03

D. Occupational Epidemiology –

1. Occupational Illnesses and Injuries

a) Introduction

Occupational epidemiology is the study of work-related injury and illness within a workforce. The goal of USAF Occupational Epidemiology is to identify hazardous exposures within the workplace with the goal of reducing worker

exposure and subsequent rates of work-related illness and injury. While simple in concept, this is a potentially problem prone area owing to problems in case definition, case identification / reporting, and case investigation. Further, occupational illnesses and injuries are rare events. As such, aggregate data representing large workforce populations may be needed for statistically meaningful trend analysis.

b) Overview of Roles / Responsibilities

- A mechanism must be in place for reporting of potential cases of occupational illness and injury. USAF practice is that workplace supervisors initiate this process by directing employees to report possible work-related injury or illness to the Public Health Flight and in the case of injury to Ground Safety as well.
- Noise-induced hearing loss is the most common occupational injury / illness in the USAF.
- Determination must be made as to the etiology (work-related or not) of the illness or injury. This typically involves discussion amongst Public Health, Bioenvironmental Engineering, and Flight Medicine personnel with review of all available data concerning the illness or injury, as well as known hazards in the work environment, worker off-duty hazard exposure, etc. Determination may be simple – a laceration requiring sutures suffered while performing typical work duties. Other cases may be far more complicated – leukemia in a fuels worker with no known out of the ordinary exposure to benzene, etc. The local Occupational Medicine consultant, often the SGP, typically performs ultimate determination of work-relatedness.
- The question of OSHA / AFOSH recording and reporting must also be determined (see section below).
- Known work-related injuries are reported through major command and on to AFSA. Work-related illness is reported through major command SG and on to AFMOA.

c) SGP's Specific Role(s)

- The SGP provides professional oversight of Team Aerospace efforts in this process. While Public Health is responsible for data collection on all epidemiologic processes, the Public Health Officer will not be able to make determination of work-relatedness without direct involvement of the SGP (or assigned Occupational Medicine consultant).

d) Summary

Team Aerospace implements preventive and occupational medical principles in the protection of the Air Force workforce from health hazards, injury and illness. USAF Occupational Epidemiology relies upon valid case reporting, synergistic case investigation by OM-PH-BEE, and communication with command safety and medical agencies regarding hazard identification and implementation of improved workforce protection. The SGP is involved in this process as Occupational Medicine consultant, Team Aerospace member and leader, aerospace medical advisor to MDG/CC, and liaison to Wing Safety.

2. OSHA Incident / Accident Log

a) Introduction

IAW Presidential Directive, DoD and USAF policy is to comply with (or exceed) all OSHA recording and reporting standards as documented in AFOSH instructions. Of note, this recording / reporting practice applies to active duty US Military personnel, as well as all Department of the Air Force civilian personnel. (Contract personnel may or may not be covered by these policies, depending upon the specifications of their negotiated contracts.) In overview, any work-related injury or illness that requires more than brief first aid or OTC medication must be recorded in the OSHA 300 log. Work-related death must be reported to OSHA within 8 hours of the event. All work-related deaths, work-related injuries or illnesses requiring absence from work, work-related injuries requiring more than simple first aid (IE: Use of Steri-strips does NOT have to be reported, but use of sutures MUST be reported, etc.), injuries or illnesses requiring use of prescription medications, and injuries or illnesses requiring permanent or temporary change of work duties – must be logged (OSHA 300 log) and reported.

b) Overview of Roles / Responsibilities

- Ultimate responsibility rests with the MDG/CC. Ordinarily, the MDG/CC will delegate implementation and oversight of this requirement to the AMDS/CC or SGP. Public Health maintains records and reports.
- In any case where there is question as to “work-relatedness,” the OM consultant (typically the SGP), BEE, PH, and work area supervisor to discuss the incident and resolve doubt as to how the case should be recorded / reported.
- Neither recording nor reporting of an injury or illness constitutes automatic evidence of OSHA or AFOSH non-compliance.
- Under reporting is common. In recognition of this, case-finding measures are typically implemented (computer review of ED and sick call diagnoses with targeted chart review of possible work-related diagnoses, etc.).

c) SGP’s Specific Role(s)

- All SGP roles identified “Occupational Epidemiology” apply here as well. OSHA recording and reporting can be viewed as an important component of overall epidemiologic surveillance and analysis.
- Administrative oversight of this process warrants meticulous attention as OSHA non-compliance carries financial consequence as well as the potential for disastrous adverse publicity and loss of trust of the workforce and local community.

d) Summary

OSHA recording and reporting are important, required, potentially high-visibility responsibilities deserving of careful oversight. The SGP should be familiar with these requirements and maintain awareness of program compliance and trends while maintaining high-energy interest in this process.

3. Reproductive Health / Fetal Protection

a) Introduction

The purpose of this program is to protect pregnant women and their unborn babies from exposures known to be hazardous in pregnancy. As such, it is desired that all pregnant workers report their pregnancy to PH as soon as they become aware that they are pregnant, initiating a process that will involve shop-specific hazards review by the BEE shop, interview by PH for hazards review outside the work place, and subsequent meeting with the OM consultant in order to make specific recommendations for duty modification via change of physical profile in a timely fashion (within five days of known pregnancy is the usual standard; all cases going beyond 10 days warranting special attention for targeted improvement).

b) Overview of Roles / Responsibilities

- HAZCOM should emphasize to the workforce any hazards known to exist within the work environment pertaining to pregnancy or reproductive physiology
- All female workers should clearly understand that it is expected that they will inform PH as soon as practical following notification of pregnancy. Ideally this process would be augmented by provider awareness as well, particularly in Family Practice and Obstetric staff.
- PH should have a system in place to interview pregnant workers, log relevant data, and inform BEE of the need for review of shop-specific hazards of known pregnant workers.
- BEE should be aware of MSDS data and shop-specific, process-specific hazards in the workplace warranting consideration of duty restrictions for pregnant workers.
- SGP (or OM consultant) should be prepared to review all of the above data in a time-sensitive fashion, making worker-specific duty modifications recorded as a recommendation for physical profile change.
- PH should be prepared to counsel the pregnant worker, file the profile change and duty limitations, and contact the pregnant worker's supervisor.
- Program goal is to achieve all of the above within five days of positive pregnancy test result.
- Individual cases where this process requires more than 10 days should be reviewed and considered as opportunities for improvement.

c) SGP's Specific Role(s)

- As with Occupational Injury and Illness and OSHA recording / reporting, this is a shared Team Aerospace function with pivotal role for SGP.
- While PH, BEE and OM all play important roles in this process, the SGP/OM consultant has ultimate responsibility for determining worker-specific duty limitations that are indicated for protection of the pregnant worker. This can only be accomplished with knowledge of workforce duties (and work processes) and known hazards within the worker's environment.

- As physician, the SGP is also in a pivotal role to win support from Family Physicians, Obstetricians, etc, to minimize the risk of ‘outlier’ cases where excess time elapses between discovery of pregnancy and initiation of this process with PH.

d) Summary

Reproductive Health and Fetal Protection are designed to protect specific subpopulations of the total force from hazard exposure. HAZCOM is important in this regard to inform workers of relevant work place hazards. Efforts at fetal protection are by nature time-sensitive, with a goal of protecting the unborn from work place hazard exposure as soon as possible. While these efforts extend across Team Aerospace, the SGP is a process owner with a critical role to play in terms of supervising the overall effort and making specific recommendations for duty limitations of pregnant workers.

References

- 29 CFR 1960, *Basic Program Elements for Federal Employees OSHA*
- NIOSH Publication 79-116, *Guide to Work Relatedness of Disease*
- AFPD 48-1, *Aerospace Medical Programs*
- AFPD 90-8, *Environment, Safety, and Occupational Health*
- AFPD 91-3, *Occupational Safety and Health*
- AFI 48-109, *Epidemiological Services*
- AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*
- AFI 91-302, *Air Force Occupational Safety and Health Standards*

E. Occupational Health Education Activities

The Occupational Safety and Health Act of 1970 created the Occupational Safety and Health Administration (OSHA) within the Department of Labor and mandated employers to reduce workplace hazards and to implement safety and health programs. In so doing, employees were given many new rights and responsibilities. This chapter will discuss some of those rights.

1. Hazard Communication Program

The most important right is the worker’s right to know. In Air Force Occupational Safety and Health (AFOSH) Standard (STD) 161-21 this is called the Hazard Communication (HAZCOM) Program and is based on OSHA 29CFR 1910.1200. Among the goals of this standard is to ensure that the USAF and its employees know about work hazards, how to protect themselves from the hazards, and in doing so reduce the incidence of chemical source illness and injuries. The quality of the HAZCOM Program depends on the adequacy and accuracy of the hazard assessment. Chemical manufacturers and importers are required to review available scientific evidence concerning the hazards of chemicals they produce or import, and to report the information they find to their employees and employers who distribute or use their products.

The HAZCOM Program is made up of many parts and as SGP, it is your responsibility to see that every shop includes all of these parts in its Program. These mandated parts are a written HAZCOM Program, HAZCOM training, inventory lists of all hazardous material (HAZMAT) at each work area, MSDS's of every HAZMAT at each work area, and labeling of every HAZMAT at each work area. A discussion of each of these parts follows below.

a) Accessibility

AFOSH STD 161-21 is to be accessible to all employees. It cannot be in a locked room, unless every employee on every shift has access to the key. Also, a written HAZCOM Program must be available to every employee at each and every worksite.

b) Workplace Training

Workplace training is to be completed and documented. The training can have many facets. Supervisors of work areas using HAZMATs are to receive supervisor HAZCOM training with AFOSH STD 161-21.1G, "Federal Hazard Communication Training Program (FHCTP), Trainer's Guide" or equivalent approved program at your base. Then, these supervisors ensure subordinate workers are trained on the AFOSH STD 161-21.1W "Federal Hazard Communication Training Program, Student's Workbook" or equivalent approved program at your base. Public Health or other formal training structure shall provide supervisor and worker-general HAZCOM training. Supervisors should supplement this training and provide information on work area-specific chemical hazards. In summary, there are three levels of HAZCOM training that must be performed; supervisor, worker-general, and work area specific.

c) Material Safety Data Sheets (MSDS)

Material Safety Data Sheets for every material used in the workplace must be accessible to all employees. Electronic access, microfiche, and other alternatives to maintaining paper copies of the MSDS's are permitted as long as no barriers to immediate employee access in each work area are created by such options. Each worker must be knowledgeable of the location in which the MSDS's are maintained in the shop. There are four sources of MSDS's:

- A computer loaded with the chemical tracking system (CTS) software with a printer can provide easy access for viewing and printing MSDS's of HAZMATs.
- In lieu of CTS access, the HMIRS may be accessed at <http://www.dlis.dla.mil>.
- MSDS's may also be obtained from your BEE shop.
- A fourth source for obtaining a MSDS is to consult the manufacturer of the hazardous chemical.

d) Hazardous Chemical Inventory List

A hazardous chemical inventory list for each work area must be developed and maintained by the work area supervisor and your BEE shop. At a minimum, the list will include the identity of each hazardous chemical used in the work area as

it appears in the MSDS. The inventory may be compiled from Hazardous Material Management System (HMSS), filed in the BEE case file, and available from your base supply. The supervisor is responsible that these lists are current and complete.

e) Non-Routine Tasks

Non-routine tasks that involve the use of HAZMATs are to be identified and listed in the work area. This includes tasks within a work area's normal activities, but which are performed infrequently, (for example, cleaning a solvent tank and changing the solvent or cleaning up spills). Also, temporary duties outside an individual's normal AFSC or job series are to be included. The supervisor will ensure work area Operating Instructions (OIs) thoroughly describe non-routine tasks, associated hazards and controls for these infrequent tasks performed in the work area. Supervisors will ensure workers review these procedures before performing the non-routine tasks.

2. Personal Protective Equipment

Another important aspect of occupational health education activities is the role of personal protective equipment (PPE). Engineering, work practice, and administrative controls are the primary means of reducing employee exposure to occupational hazards. Engineering controls minimize employee exposure by either reducing or removing the hazard at the source or isolating the worker from the hazard. Work practice controls alter the manner in which a task is performed. Administrative controls include controlling employee's exposure by scheduling production and tasks, or both, in ways that minimize exposure levels. When effective work practices or engineering controls are not feasible or while controls are being instituted, appropriate PPE must be used. PPE will reduce the potential for exposure, but will not eliminate it. To be effective, PPE must be individually selected, properly fitted and periodically refitted, conscientiously and properly worn, regularly maintained and replaced, as necessary. The particular PPE that should be utilized in each specific shop will be driven by the hazards present and their accompanying MSDS's. Potential hazards may include air contaminants, as well as, chemical, biological, physical, and ergonomic hazards.

a) Chemical, Biological and Physical Protections

Chemical, biological, and physical hazards can be controlled with multiple types of PPE. Before doing work requiring use of PPE, employees must be trained to know when PPE is necessary, what type is necessary, how it is to be worn, what its limitations are, as well as its proper care, maintenance, useful life, and disposal. Supervisors are required to certify in writing that training has been carried out and that employees understand it. Each written certification shall contain the name of each employee trained, the date(s) of training, and identify the subject certified.

b) Respiratory Protection

Inhalation of air contaminants are controlled with respiratory protection. A copy of AFOSH STD 48-137 will be located at the work area that has been

determined to require this type of protection. Any respirator program should stress thorough training of all participants, especially users who need to wear the respirators. This is accomplished by the BEE shop. Employees must be aware that the equipment does not eliminate the hazard. If the equipment fails, over-exposure may occur. To reduce the possibility of failure, equipment must fit properly and be maintained in a clean and serviceable condition. Supervisors and employees must understand the equipment's purpose and its limitations. The equipment must not be altered or removed from the wearer even for a short time, despite the fact the wearer may find it uncomfortable.

An effective respirator program should include the following: written standard operating procedures, program evaluation, selection of respirator, training, fit testing, medical examinations, work area surveillance, air quality standards, approved respirators, and inspection, cleaning, maintenance, and storage of the respirators. Supervisors are required to have written operating procedures for the safe and proper use of respirators. Users must be familiar with these procedures as well as with available respirators and their limitations. The effectiveness of the respirator program should be evaluated regularly – at least annually – and the written operating procedure modified as necessary to reflect the evaluation results. Choosing the right equipment involves several steps: determining what the hazard is and its extent, choosing equipment that is certified for the function, and assuring that the device is performing the intended function. This is done by your BEE shop.

c) Head Protection

Head protection is an important type of PPE. Most workers who suffered impact injuries to the head were not wearing head protection. The majority of these workers were injured while performing their jobs at their regular worksites. Head injuries are caused by falling or flying objects, or by bumping the head against a fixed object. Head protection, in the form of protective hats, must do two things – resist penetration and absorb the shock of a blow. This is accomplished by making the shell of the hat from a material hard enough to resist the blow, and by utilizing a shock-absorbing lining composed of headband and crown straps to keep the shell away from the wearer's skull. Protective hats are also used to protect against electrical shock. The type of head protection and work areas that require head protection are determined by your BEE shop.

d) Eye and Face Protection

Eye and face protection guards against contact and absorption of contaminants. Eye and face protection is required where there is a reasonable probability of preventing injury when such equipment is used. Sixty percent of workers who suffered eye injuries were not wearing eye protective equipment. Suitable eye protectors must be provided where there is a potential for injury to the eyes or face from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, potentially injurious light radiation or a combination of these. Protectors must meet the following minimum requirements: provide adequate protection against the particular hazards for which they are designed, be reasonably comfortable when worn under the

designated conditions, fit snugly without interfering with the movements or vision of the wearer, be durable, be capable of being disinfected, be easily cleanable, and be kept clean and in good condition. The type of eye and face protection and work areas that require eye and face protection are determined by your BEE shop.

e) Hearing Protection

Ear protection is the most predominant type of PPE utilized in the USAF. Exposure to high noise levels can cause hearing loss and impairment, as well as, create physical and psychological stress. There is no cure for noise-induced hearing loss, so the prevention of excessive noise exposure is the only way to avoid hearing damage. Specifically designed protection is required depending on the type of noise encountered and the auditory condition of the employee. The type of ear protection and work areas that require ear protection are determined by your BEE shop.

f) Protective Clothing

Many hazards can threaten the torso: heat, splashes from hot metals and liquids, impacts, cuts, acids, and radiation. A variety of protective clothing is available: vests, jackets, aprons, coveralls, and full body suits. The type of torso protection and work areas that require torso protection are determined by your BEE shop.

Examples of injuries to arms and hands include burns, cuts, electrical shock, amputation, and absorption of chemicals. There is a wide assortment of gloves, hand pads, sleeves, and wristlets for protection of the arms and hands against various hazardous situations. The protective device should be selected to fit the job. The type of arm and hand protection and work areas that require arm and hand protection are determined by your BEE shop.

g) Feet Protection

Most workers that suffer foot injuries are not wearing protective footwear. The typical foot injury is caused by objects falling fewer than 4 feet and the median weight is approximately 65 pounds. Again, most workers are injured while performing their normal job activities at their worksites. For protection of feet and legs from falling or rolling objects, sharp objects, molten metal, hot surfaces, and wet slippery surfaces, workers should use appropriate foot guards, safety shoes, or boots and leggings. Leggings protect the lower leg and feet from molten metal or welding sparks. The type of foot and leg protection and work areas that require foot and leg protection are determined by your BEE shop.

3. Summary

In summary, when BEEs, public health, and physicians visit the work area they must be able to see a written form of AFOSH STD 161-21, complete HAZMAT inventory list, and list of non-routine tasks with attached OIs. They must verify the supervisor, worker-general, and work area specific HAZCOM training has been completed and documented on Form 55. They must verify MSDS's are available for each HAZMAT

item used in the shop, verify workers are aware of the location of the shop MSDS file, and ensure MSDS's are readily accessible by all workers on all shifts. They must determine if contractors perform work involving use of HAZMAT in the shop. If so, then they must determine if exchange of HAZCOM has taken place. If contractors are using HAZMAT in the immediate area of workers, then it is the responsibility of the supervisor to add the contractors HAZMAT to the shops inventory list, and vice-versa. Based on the hazards identified in the shop, the team must determine if engineering controls, work practice, or administrative controls can reduce exposures below the appropriate limit. Public health can be utilized to assess trends. If controls are not able to reduce levels lower than the appropriate limits, then the team must verify that the PPE being utilized controls contaminant levels below those limits. The physician must be closely tied to this team because he is crucial in determining those workers that are more sensitive to certain hazards rather than just looking at the average individual potential exposures to these same hazards.

F. SGP Responsibility for the Occupational Medicine Shop Visit Program

1. Introduction

A successful Occupational Health Program (OHP) plays a key role in maximizing mission accomplishment by protecting human resources, reducing costs, and improving worker performance. An essential part of any successful OHP is the Shop (or Worksite) Visit program. Shop Visits are key to identifying and addressing existing (or potential) hazards in the workplace. They allow assessment of risk to workers, lead to measures to control and/or limit these risks, and facilitate direct risk communication to workers and supervisors. The Shop Visit Program primarily involves the Bioenvironmental Engineering (BE), Flight Medicine (FM), and Public Health (PH) flights.

Note 1: You'll notice that they are called "visits" and not "inspections." Part of what is accomplished may be a compliance inspection, but a critical goal of the visit is to establish a non-adversarial working relationship with the shop personnel. The workers are far more likely to be open with the OHP team if they know that the members understand what they do and genuinely care about their safety and well-being. They will certainly be more receptive to the physician's advice and/or reassurance should an issue arise that they perceive to be hazardous to themselves.

*Note 2: **To be clear on one other issue:** Monthly Occupational Shop Visits are distinct from, and must be coordinated and managed differently from, periodic food facility inspections (with PH) and quarterly visits to life support, control tower, and the RAPCON. Shop Visits also are completely independent from regular flying squadron visits. The SGP must ensure that all flight surgeons are active participants in each of these activities during their 50% non-clinic time. In fact, these are the exact reasons flight docs only do clinic half the time!*

2. Overview of Roles/Responsibilities

- Occupational Medicine Physician Visits (OMPVs) are usually performed by flight surgeons (FS). An exception is at Air Logistic Centers (ALCs) that have a separate OM Flight with a staff of OM physicians. Even at these bases, however,

FS's should actively participate in OMPV's as they will be expected to accomplish them whenever deployed. Physician expertise on human physiology and behavior allows them to integrate industrial hygiene and safety data with knowledge of human factors (e.g. stress, fatigue, human physiology, ergonomics, etc.) to help devise an overall plan to protect and enhance worker performance. Granted, physicians performing these inspections will also gain valuable information and knowledge on base operations, but the primary function of the physician visit is *to determine that the worker-hazard interface is secure*. It is a stand-alone function that complements observations and information gained from the BE/PH visits.

- The BE's role is different... they provide services that are mostly engineering or industrial hygiene-based. Their Shop Visits are focused on the identification of all work processes at a particular work place or shop, and then hazard characterization (industrial hygiene) of these processes. They categorize and track all shops based on work processes and hazards found. If a shop has a significant change in their work processes, the supervisor is required to inform the BE of this change. However, this is frequently overlooked and discovery may be made during the shop visit. A complete repository of information specific to each shop is gathered and kept in a "Case File" and case files for every shop on base are maintained by the BE flight. *Note 3: Physicians performing a Shop Visits should always review the shop case file before going to the worksite... this way they have familiarized themselves with the known shop environment and hazards*
- Public Health plays yet another role... they gather and report on data on personnel assigned, hearing tests results (e.g. temporary and permanent threshold shifts), and reports of injury and illnesses. If a wing safety representative does not participate in the OHWG (highly recommended), then PH may gather data from the safety office that will help characterize a shop's history. PH is also responsible for training shop supervisors on HAZCOM and safety who, in turn, train their personnel (i.e. train the trainer). Shop Visits are done to access the status of required training such as HAZCOM communication, training for Personnel Protective Equipment, safety training, and accuracy of the personnel roster.
- Not every shop can be (nor needs to be) visited every year. Therefore, it's important to know that shops are categorized based on their level of hazard/risk. **Category 1** shops are generally considered high risk (i.e. with the most potentially hazardous work processes) and therefore should have the highest priority for visits. *Note 4: The SGP should ensure that these shop are prioritized and visits accomplished*
- The correct approach to any successful OH program is the team approach, with prevention of injury and illness being the common goal. Shop visits should be deliberately planned (e.g. at the OHWG) and accomplished in a coordinated manner. BE, FM, and PH personnel may decide to visit shops together, or separately. Either strategy of joint or independent visits has particular advantages. For example, inexperienced flight surgeons may benefit initially from joint visits (i.e. by gaining familiarity and comfort through "mutual support")... and redundancy never hurts in preventing missing items and/or uncovering new information. On the other hand, more experienced physicians should demonstrate an increased independent presence in the shops (even if done

during a joint visit) since he/she is looking at different things and from a different (human factors) perspective. Whereas the BE may be concentrating on the chemical hazard control measures and the presence of Personal Protective Equipment (PPE), the physician may be talking to the workers about the level of support they receive from their supervisors, the amount of stress they're under, and whether they actually wear their PPE. Closure comes at the OHWG when observations from all OH team members are gathered and analyzed, along with decision-making on whether to modify existing workplace/worker surveillance.

3. The Chief of Aerospace Medicine's (SGP) specific role(s):

- At most bases (i.e. without an Occupational Medicine Flight), the SGP directs and provides professional guidance for the occupational medicine program. As the team leader for the OHP and head of the OHWG, he/she is key in providing medical oversight, professional guidance and mentorship, and education to personnel from the BE, PH, physiological training, and other organizations involved in the OHP. The SGP should be intimately involved with the following functions:
 - determining the frequency and scope of occupational medicine exams required by federal regulations and workplace exposures, and ensuring that the OHP complies with all applicable regulatory guidance
 - developing and managing a mission-oriented preventive medicine program
 - fully characterizing the operational environment as it relates to health and performance, providing recommendations to decrease risk, prevent mishaps, increase health, and enhance performance.
 - conducting and supervising required placement and periodic health exams for workers
 - establishing procedures to identify occupational hazards and to notify appropriate agencies of occupational diseases or injuries
 - providing supervision on investigations of job related injuries or illness.
- Additionally the SGP is responsible for:
 - Ensuring participation of all flight docs in the OPV process (the FM flight commander may develop the schedule, but the SGP sees that it gets done).
 - Ensuring prioritization/coordination of shop visits between BE, FM, and PH (usually done as Chair of the OHWG)
 - Encouraging all flight surgeons to enhance their OM knowledge and skills by attending the Occupational Medicine Training Course at Brooks AFB.
 - Role modeling, by participating in occupational Shop Visits themselves
 - Taking the time to mentor/teach new flight surgeons how to do a proper Shop Visit using a physician perspective

4. Summary:

Flight surgeons have a unique knowledge of human physiology and behavior that then defines the role they should assume in the OHP. Physicians should never be seen as a “tag-along” on a Shop Visit, but instead should contribute a different and valuable perspective to the overall shop evaluation. The SGP must understand this role, be able to model and teach it, and then ensure that the expectations are being

met. The SGP must also ensure that all other members of the PHP are fully participating in the OHP and that all function as a single unit in their drive to protect the workforce.

References (Most in Appendix)

- 29 CFR 1960, Basic Program Elements for Federal Employees OSHA.
- DODI 6055.1, *DoD Occupational Safety and Health Program*
- DOD 6055.5-M, *Occupational Medical Surveillance Manual*
- AFRD 48-1, *Aerospace Medical Programs*
- AFRD 90-8, *Environment, Safety, and Occupational Health*
- AFRD 91-3, *Occupational Safety and Health*
- AFI 48-123, *Medical Examination and Standards*
- AFI 48-145 *Occupational Health Program*
- AFI 91-301, *Air Force Occup and Env Safety, Fire Protection, and Health (AFOSH) Program*
- NIOSH Publication 79-116, *A Guide to the Work Relatedness of Disease*,
- U.S Department of Health, Education, and Welfare
- Public Health Service
- Center for Disease Control
- National Institute for Occupational Safety and Health

G. Command Core

1. Background

Command Core System is the tool currently being used by the Occupational Health Working Group to identify, track, and manage the potentially hazardous exposures in the workplace by military members. Command Core is essentially a relational database used by Air Force installations that integrates data across medical, environmental, logistics, and safety information systems. This system was first implemented in 1999, and was expected to be fully operational at all USAF installations by the end of 2002. Prior to Command Core being deployed, other systems such as "BEE Keeper", "B-52", and "Phoenix" were used to provide this same function.

2. Overview/Responsibilities - Bioenvironmental Engineering (BE):

While the OHWG functions as the oversight and coordinating body for work center health and safety, the Command Core System is predominantly a BE responsibility to keep current. Command Core can only be used as an effective tool if the data it contains is accurate. Consider the "garbage in, garbage out" principle. Data input to Command Core allows the following categories of information to be inter-related.

- a. Employees – manages personal demographics along with work assignments, and assignment to specific Potential Exposure Groups (PEG).
- b. Workplaces – maintains shop lists and their PEGs and associated activity or process.
- c. Equipment and Survey Instruments – records both equipment used within the PEG and well as those used by BEs during shop surveys. Equipment lists are as specific as model and serial numbers.
- d. Assessments – documents not only general assessments of PEGs, but is used to record specific risk assessment and compliance assessments.

- e. Shop Survey Information – specific values collected during shop visits such as air, noise, dosimetry, laser, radio frequency, ventilation sampling are documented here.
- f. Controls – manages the specific types of control measures assigned to each PEG, activity, or process.
- g. Respiratory Protection – maintains respirator selection and qualification data.

3. Overview/Responsibilities - Public Health/Force Management (PH):

While BE is responsible for data collection and entry into Command Core, the PH contribution to Team Aerospace provides the “human” interface. PH uses Command Core outputs to monitor specific workers who exceed exposure limits, provide training programs to educate workers on specific hazards as well as control measures. They also play a role in doing some specific testing on workers such as hearing.

4. Overview/Responsibilities - Chief of Aerospace Medicine (SGP):

Since the SGP often chairs the OHWG, that individual provides oversight to the entire occupational medicine program. While certain areas of expertise lies within the BE and PH section, the SGP, because of their professional training in all areas of Team Aerospace needs to serve as the facilitator for the installation in ensuring compliance with AFOSH and OSHA regulations.

5. Summary

Maintaining a healthy workforce is vital to ensuring the US Air Force can meet its mission requirements. The OHWG uses Command Core as the database to consolidate 1) the worker and exposure data collected during shop visits, 2) the associated level and type of control measures to mitigate such hazards specific to those shops, and 3) the medical requirements and examination results of the workers to ensure compliance with governmental regulatory requirements.

6. Points of contact

- AFIERA/RSEC - Command Core System Program Management Office
2513 Kennedy Circle, Bldg. 180
Brooks AFB, TX 78235-5123
Comm (210) 536-4863
DSN 240-4863

References

- AFI 48-145 *Occupational Health Program*
- AFI 91-301 *Air Force Occupational And Environmental Safety, Fire Protection, And Health (AFOSH) Program*
- AFOSH STD 48-8 *Controlling Exposures to Hazardous Material*
- AFOSH STD 48-21 *Hazard Communication*
- AFOSH STD 48-137 *Respirator Protection Program*
- AFOSH STD 91-31 *Personal Protective Equipment*
- AFD 91-3 *Occupational Safety and Health*
- 29 CFR 1910 *Occupational Safety and Health Standards*

- <http://www.osha.gov>

H. Confined Space Program

1. Background

Confined space work is a unique work environment that requires special oversight and control measures to prevent worker injury and or death that result from both physical hazards and/or human factors. Physical hazards include such things as atmospheric hazards such as lack of sufficient oxygen to support life, excessive oxygen levels that increase the danger of fire or explosion, presence of flammable or explosive atmospheres and materials, or the presence of toxic gases or materials. In addition, the confined work space may include electrical or mechanical hazards that must be locked out, or engulfment or entrapment hazards. Many of these hazards are not readily apparent, detectable by odor, or visible, which may result in workers entering confined spaces without consideration of the potential dangers. Workers must consider that all confined spaces contain the most unfavorable and unsafe conditions and will not enter or work in these spaces until tests, evaluations, and prescribed requirements of this standard and locally developed procedures are performed to ensure safe conditions exist prior to entry and are maintained during the entire work period.

Human factors that can put workers at risk include two major categories: mental, such as attitude, emotion, job or domestic pressure, distractions, job knowledge, and hurrying; or physical, such as fatigue, physical strength, and reactions to prescription medications or drugs. These factors may affect workers who, by their commission (what they do) or by their omission (what they fail to do), can contribute to or even be the cause of a mishap. Some examples are: ignoring directions from entry supervisors, improper use of personal protective equipment (PPE) or tools while angry or distracted, being distracted from the job task while thinking about personal problems, not following established procedures or taking unauthorized shortcuts to save time, feeling drowsy or fatigued while performing job tasks caused by taking medically prescribed medications or improperly taking alcohol or illegal drugs or using equipment when not properly trained or qualified.

Regardless of these hazards, work in confined space is labor and resource intensive due to the extra safeguards that must be in place. The inspection process prior to entry, the added equipment required for safety, the additional manpower for site preparation/inspection, actual entrance into the confined space and the required attendants that must remain outside yet stay in close contact with the worker visually and verbally. There are basically two categories of confined spaces those requiring permits, and those that do not. Permit required spaces are regulated more tightly and are distinguished by the following features (see Table 1):

- Contains or has a potential to contain a hazardous atmosphere
- Contains a material that has the potential for engulfing the entrant
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section
- Contains any other recognized serious safety or health hazard.

2. Overview/Responsibilities

Confined Space Programs on each installation are managed by several key figures outside traditional medical channels. These individuals include the Chief of Safety (SEG), Fire Chief (CEF), and Bioenvironmental Engineering (BE). Representatives from these departments form the nucleus of the installation Confined Space Program Team (CSPT). This group shares the responsibility of site surveys, training, rescue, and compliance and documentation issues. Other members of the CSPT include the functional manager, commander, or their designated representative.

- Chief of Safety - Serves as the focal point for implementation of this standard and coordinates the installation confined space program. This person chairs the CSPT.
- Fire Chief - Provide rescue support for confined space entries, assists in identification and selection of required equipment, to include PPE and self-contained breathing apparatus (SCBA), for organizational rescue teams.
- Bioenvironmental Engineering (BE) – maintains the Respiratory Protection Program of those personnel that may enter confined spaces to include selection of appropriate respiratory equipment and PPE as well as fit testing. They also provide training on the use, calibration, and care of atmosphere testing and monitoring equipment, and assist in air sampling of confined spaces.

Members of the CSPT work together to create a Master Entrance Plan (MEP) for specific work sites. This document covers all aspects of training, qualifications, work, environmental sampling, and rescue procedures. In the end though, the ultimate implementation of the MEP lies on the Entry (On-Site) Supervisor, Confined Space Entrant and Confined Space Attendants. These three individuals make or break the Confined Space Program. Their specific responsibilities are outlined in AFOSH STD 91-25 Chapter.

Note: outside of standard OHWG responsibilities for the SGP and PH, there are little actual responsibilities and participation in the Confined Space Program.

3. Summary

Maintaining a healthy workforce is vital to ensuring the US Air Force can meet its mission requirements. The Confined Space Program represents a unique workplace environment that can potentially cause significant morbidity and/or mortality. As a result, it is very tightly regulated with specific instructions for each member of the CSPT. Because of the requirement for extensive training and specific qualifications especially respirator use, this program is predominantly executed by installation safety and the fire department.

References

- AFI 48-145 *Occupational Health Program*
- AFI 91-301 *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*
- AFOSHSTD 98-25 *Confined Spaces*
- AFD 91-3 *Occupational Safety and Health*
- 29 CFR 1910.146 *Confined Spaces*

- <http://www.osha.gov>
- American National Standards Institute (ANSI) Z117.1, *Safety Requirement for Confined Spaces*

Table I. Confined Spaces Classification-Atmospheric Conditions

CONFINED SPACE PERMIT-REQUIRED		NON PERMIT
Characteristics	**Immediately dangerous to life or health (IDLH). Potential for or has contained a hazardous atmosphere.	No hazardous atmosphere with no creditable potential for a hazardous atmosphere, engulfment, or entrapment.
Oxygen	Less than 19.5 *(less 148 mm Hg) or greater than 23.5 percent *(greater than 179 mm Hg).	19.5 percent - 23.5 *148 - 179 mm Hg).
Flammability	Greater than 10 percent Lower Explosive Limit (LEL).	Less than or equal to 10 percent LEL.
Toxicity	An atmosphere concentration of any chemical substance over the occupational exposure limit (OEL) which is capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects.	An atmosphere concentration of any chemical substance, regardless of OEL, which is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects.

* Based upon a total atmospheric pressure of 760 mm Hg (sea level).

** Immediately Dangerous to Life or Health — as referenced in National Institute for Occupational Safety and Health (NIOSH), *Registry to Toxic and Chemical Substances*, Manufacturing Chemists data sheets, or other recognized authorities.

I. Directed Energy - LASERs

1. Background

A LASER (Light Amplification by Stimulated Emission of Radiation) is a device that emits an intense narrow beam of light at discrete wave lengths, which range from near-ultraviolet (invisible) through the color spectrum (visible) and into the far infrared spectrum (also invisible). The military's use of LASERs has increased dramatically, thus increasing the potential for injury to both air and ground personnel. Due to the light concentrating power of the lens, the potential for eye injury is one of the most significant injuries, but other hazardous conditions can exist as well. Eye injuries that can be anticipated include loss of color or night vision due to glare; flash blindness; photo keratitis; corneal burns; retinal burns and possible cataract formation. In addition, skin burns may also be expected. In general, glare effects require the least energy while corneal and retinal lesions require more energy. Glare problems disappear immediately when the LASER is turned off. Visual disturbances which persist after the LASER is off are due to flash blindness or damage. Energies

less than 1 millijoules/cm² can cause flash blindness; 1.5 millijoules/cm² can cause retinal damage. Other potential sources of injuries that can exist include such things as electrocution, fire, explosion, air contaminants, ionizing and non-ionizing radiation, compressed gases, laser dyes, and noise, confined space and ergonomic issues.

Sources of LASER exposure can come from both airborne and ground exposures since they are integral components of many weapon systems. Examples of this include devices used in targeting, range finding or distance measuring equipment. LASERs presently come in all sizes from aircraft-sized targeting and weapon systems, to finger tip pointers. The high prevalence of LASERs and their increasing use in future operations illustrates the need for flight surgeons to be an integral member of the safety program by understanding the unit's mission and equipment deployment as well as a knowledgeable medical professional in the event an individual is exposed to a LASER.

2. Overview

Creating and maintaining an effective LASER Prevention Program requires at least four key components. They include:

- Controlling the risks from LASER employment (e.g., range safety)
- Prevention of LASER injury (protective eyewear devices)
- Occupational screening of personnel associated with operational LASER Employment
- Effective clinical management of LASER injuries.

Controlling LASER employment: Using the principle "prevention is the best medicine", supervisors should minimize the number of personnel exposed to LASERs in the operational environment. Obviously this entails avoidance of the LASER beam from direct exposures, as well as from reflected surfaces. Another means of exacerbating LASER injuries occurs from the use of amplification devices such as binoculars or camera lenses during LASER exposures. These personnel who are at risk for exposure warrant appropriate protection by ensuring there is adequate protection using barricades as well as eye protection containing filters specific to that LASER. Team Aerospace members need to work with wing weapons and safety agencies to ensure that the risk of operational LASER employment is minimized.

Preventing LASER injury: As mentioned previously, LASERs are composed of very narrow wavelengths of light that require the use of very specific filtering devices in the form of eye protection. These same filters also need to be used on cameras and binocular type devices as well.

Occupational Screening: Personnel operating or associated with high power LASERs need pre-placement, termination, and post exposure medical examinations. Screening includes an ocular history, determination of visual acuity and depth perception, slight lamp examination, funduscopy, and amsler grid testing. All instances of suspected LASER exposure require full evaluation (see Appendix 1).

Injury Management: All Flight Medicine Offices should ensure that a protocol exists for managing LASER injuries. While this is particularly appropriate for bases operating LASER systems, all bases may be confronted with LASER injuries within a contingency scenario.

3. Responsibilities

- The SGP, as chair of the Occupational Health Working Group (OHWG), provides administrative as well as medical oversight to the installation. The development of appropriate policies and procedures for controls as well as ensuring certification of eye protection devices falls under the administrative realm. The medical component relates to adequate training and education of medical personnel that is just as important. It is essential that periodic and emergent medical care is provided in a timely, efficient manner to prevent permanent damage or loss of eyesight.
- Bioenvironmental Engineering (BE) Flight or Designated Laser Safety Officer: The BE or Laser Safety Officer implements and conducts the base laser safety program. They conduct laser health hazard evaluations, determines the laser class, exposure limits, hazard distances and zones, recommends engineering controls, administrative and procedural controls as necessary, and are involved in any safety investigation of suspected exposures.
- Public Health (PH) in conjunction with the Occupational Physician: Oversees medical surveillance requirements, coordinates on investigations of suspected or actual laser radiation exposure, and implements appropriate procedures for reporting and investigation of suspected LASER exposures. They also ensure medical follow-up examinations specified by the occupational medicine consultant at USAFSAM/AFC are conducted for persons identified as having been overexposed to laser radiation, and coordinates medical follow-up examinations with USAFSAM.

4. Points of contact

- Tri-service Laser Hotline 1-800-473-3549
- Institute for Environment, Safety, Occupational Health and Risk Assessment/Radiation Surveillance Division (formerly Det 1, HSC/OEBZ): IERA/SDRH, 2402 E Drive, Brooks AFB TX 78235, DSN 240-3486 or (210) 536-3486.
- Air Force Research Laboratory/Optical Radiation Branch (formerly Det 1, HSC/OEO): AFRL/HEDO, 8111 18th Street, Brooks AFB TX 78235, DSN 240-4784 or (210) 536-4784. <http://www.brooks.af.mil/AFRL/HED/HEDO/lasers.htm>
- Air Force Medical Operations Agency Radiation Protection Division (AFMOA/SGOR): 110 Luke Avenue Room 405, Bolling AFB DC 20332, DSN 297-4313 or (202) 767-4313.
- 86 MDSS/SGSB, USAFE Environmental Health Consultant Service: DSN 496-6782.
- Det 3, IERA (PACAF): Douglas Blvd, Bldg. 850, APO AP 96368-5213, Technical Expertise: DSN 315-634-1769.

- United States Air Force School of Aerospace Medicine Ophthalmology Branch (USAFSAM/AFC): 2507 Kennedy Circle, Brooks AFB TX 78235-5117, DSN 240-3241 or (210) 536-3241.
- Human Systems Program Office, 311 HSW/YA, 7909 Lindbergh Drive, Brooks AFB, TX 78235-5352.

References

- AFI 48-123 *Medical Examinations & Standards*
- AFI 48-145 *Occupational Health Program*
- AFI 91-301 *Air Force Occupational And Environmental Safety, Fire Protection, And Health (AFOSH) Program*
- AFOSH Standard 48-139 *Laser Radiation Protection Program*
- ANSI Z136.1 *American National Standards Institute for the Safe Use of Lasers*
- 29 CFR 1910.97 *Nonionizing Radiation*

Appendix 1

PROCEDURES FOR MEDICAL EVALUATION OF PERSONNEL FOLLOWING SUSPECTED EXPOSURE

A1.1. Individual should immediately report to the Medical Treatment Facility whenever eye exposure to laser light is suspected.

A1.2. An examination should be done and will include at minimum the following:

A1.2.1. Medical history.

A1.2.2. External examination including skin.

A1.2.3. Best corrected visual acuity (near and far).

A1.2.4. Amsler grid.

A1.2.5. Stereopsis.

A1.2.6. Color vision.

A1.2.7. Non-dilated funduscopy (dilated examination is recommended.).

A1.3. If the results of the examination are normal and the individual does not have any persistent visual complaints, the individual can be returned to duty. Normal is defined as normal for the individual.

A1.4. If the results of the initial examination performed are abnormal or questionable, additional examination will be conducted to include:

A1.4.1. Pupil examination.

A1.4.2. Slit lamp biomicroscopy.

A1.4.3. Dilated funduscopy.

A1.4.4. Retinal photography.

A1.5. If the results of the additional examination do not provide any questionable abnormalities, contact

The Tri-Service hotline at (800) 473-3549.

A1.6. If the results of the additional examination are abnormal or questionable, individual will be referred for a full and thorough ocular examination that may include retinal photographs, visual fields, color vision testing, fluorescent angiography, and other tests as appropriate. Contact the USAF School of Aerospace Medicine for further action.

J. Non-ionizing Radiation

1. Background

Non-ionizing radiation or radio frequency radiation (RFR) refers to specific frequencies that lie within the 3kHz - 300GHz range. This spectrum encompasses most standard radio, television, and other communication bands. It also extends into infrared waves, visible light, and ultraviolet radiation. UV-C is the point where non-ionizing radiation transitions to ionizing radiation. At high doses of RFR, tissue heating can occur with protein denaturation and tissue necrosis. One of the most notable injuries that can occur with RFR is cataract formation from prolonged exposure. Health effects from non-thermal, low exposures to RFR and microwave radiation are controversial. It is unclear how to evaluate a patient who has allegedly received an overdose of RFR since there are no specific tests or exams. RFR/microwave radiation has insufficient energy to cause molecular ionization, but it does cause vibration and rotation of molecules.

Non-ionizing radiation is composed of separate electric and magnetic field vectors, each perpendicular to the other and both perpendicular to the direction of the resultant electromagnetic wave. The electric field component is measured in volts/meter, the magnetic component in amps/meter, and the resultant power density in watts/meter². The term specific absorption rate (SAR) was created to quantify exposure to RFR. It is similar to rad as used in describing ionizing radiation. The threshold limit value (TLV) for energy exposure is set at whole body SAR = 0.4 Watt/kg in any 6 minute period for frequencies between 3 MHz and 300 GHz. Exposures of RFR between 10kHz and 3 MHz. The SAR remains 0.4 Watt/kg, but a ceiling of 100 mW/cm² exists to prevent shock and burn hazards. While RFR is typically associated with heat type injuries, other types of injuries can arise. Many systems operate with large energy supplies that can pose a threat of electrocution or contain ionizing radiation sub-components. Often they are located in remote sites, or mounted on towers that can have the potential for causing falls and containing confined spaces.

Exposures to RFR can come from a multitude of sources. The US Air Force has numerous systems in operation that can potentially allow harmful exposures. Examples of this include communication systems with their numerous radio antennae, aircraft radars and electronic countermeasure devices, fixed and mobile radar sites, as well as diathermy units within hospitals and clinics.

2. Responsibilities

- Medical Treatment Facility (MTF) Commander/Aerospace Medicine Specialist (SGP): As chair of the Occupational Health Working Group (OHWG), this individual provides administrative as well as medical oversight to the installation.
- Bioenvironmental Engineering Flight (BE): In order to have an effective safety program, a knowledgeable, trained BEE is essential. Not only must they perform thorough site surveys, recommend appropriate PPE, and determine functional controls, they also assist with creating education and training programs to ensure safe operations in the workplace. They also investigate all alleged or suspected overexposures to RFR coordinate with Armstrong Laboratory, RFR Division, Sources

and Measurements Branch (AL/OERS), as needed, and provide copies of the final documentation for evaluation and possible inclusion in the RFR Exposure Repository.

- **Public Health Flight (PH):** The BEE works closely with BE in investigating RFR incidents, and provide medical surveillance feedback to BE. They also prepare and distribute AF Form 190, Occupational Illness/Injury Report, and additional documentation as appropriate for all incidents of alleged personnel overexposure to RFR. They also coordinate investigations of suspected or known overexposures to personnel with the installation ground safety staff, and advise BE of medical diagnostic results, and finally, ensure medical follow-up examinations specified by the occupational medicine consultant at AL/ AOC are conducted for persons identified as having been overexposed to RFR.

3. Controls

Well-managed safety programs have multiple layers of active and passive control measures to ensure the safety of the workforce. While engineering is the best means of controlling hazards, at times this is not sufficient or feasible. Administrative and/or PPE become the next layer of defense.

a) Engineering Control Measures:

- **Azimuth Blanking.** This is a common practice for search radars. Azimuth blanking allows operators to null transmissions when the radar is pointed at a particular range of azimuths or mechanically (or electronically) restrict the radar from pointing in a certain azimuth.
- **Dummy Load.** Dummy loads are commonly used instead of antennas to preclude free space irradiation inside the shop area. When properly connected on a bench test system, dummy loads are most effective. However, these systems occasionally experience cracks that may result in RFR leakage up to several inches from the equipment.
- **Flashing Lights.** Flashing lights or audible signals are used in areas with high RFR levels.
- **Interlocks.** These are devices that automatically switch off the RFR emissions when a door, hatch or other entry point is breached.
- **Kill Switches or Panic Buttons.** These are safety devices that are usually installed inside rooms where antennas are located and are for emergency use only. If an individual is accidentally locked inside the radome at the time of transmission, using one of these devices would immediately alert the operators, open the exit door to the antenna room and shutdown power to the system.
- **Electric Shock & Burns.** Personnel should be adequately protected from electric shock and burns through the use of electrical safety matting, electrical safety shoes, or other isolation techniques. These items are specifically required for controlled areas where frequencies are below 30 MHz as electric shock and burns are the primary hazards.

b) Administrative and Physical Controls:

- Cones with Warning Signs Affixed. Common orange and yellow traffic cones may be utilized to delineate the perimeter of a hazard area.
- Roped Off Areas with Warning Signs. Temporary or permanent areas may be posted in this manner. Temporary areas may use wooden stands utilizing a rope or chain between the stands to delineate the perimeter or to block an access point. A permanent area may use wooden or metal posts driven into the ground or cemented in place. Appropriate warning signs should be attached to the rope, posts, or chain. Signs should be visible from all directions of approach.
- Fences. Metal chain link or wooden fences may be utilized to control access to hazardous areas. However, wooden fences (non-conductive) are commonly used around HF emitter sites due to the potential for metal objects to passively re-radiate RFR.
- Constant Observation. Posting a qualified operator or technician to observe the illuminated area during transmissions is a physical or administrative control measure that may be implemented in instances where permanent posting or roping off an area is not feasible. Conditions of this type may occur during field deployment exercises when mobile systems must be operated, but posting requirements would compromise the location of the unit or otherwise interfere with the mission of the unit. Under those conditions, constant observation may be substituted for highly visible signs or other controls that would compromise the intended purpose of subdued paint and camouflage. However, under normal conditions, an observer may not be substituted for mandatory posting or other BEE recommended controls. Constant observation is typically used in conjunction with other control measures for added protection.
- Prior Coordination. This is an administrative control measure usually implemented to prevent workers from inadvertently accessing areas that could exceed the PELs. This control establishes a procedure for maintenance personnel entering such areas to notify the controller or the operator before entering the area. Rarely, but in some cases, a similar measure may be established that requires the emitter operators to notify affected personnel prior to transmission. These situations are rare, but may be necessary in highly congested areas, especially where fuel transfer operations or explosives could be impacted. Finally, prior coordination on a busy installation may be implemented to work in both directions whereby emitter controllers or operators and maintenance personnel are both made aware of each other's actions before proceeding.

c) Personal Protective Equipment:

- RFR Protective Clothing. RFR shielded clothing is not acceptable as a method of protecting individuals from hazardous levels of RFR. Shielded clothing will not be used for Air Force operations.
- RFR Sensors, Detectors, Alarms, Area Monitors, and Personal Warning Devices. The US Air Force Surgeon General does not advocate the use of personal detectors or area monitors in Air Force operational environments. Devices of this nature can provide a false sense of security to workers in many

situations. These devices can be overly sensitive or insensitive depending upon the positioning of the emitter, sensor, and body. The wearer's body may shield the detector, causing the sensor not to alarm when needed. The human body can also enhance the field resulting in false alarms. Detection of the presence of RFR does not usually occur unless a strong field is present, in which case the wearer may already be in a field that exceeds the limitations in this standard. If the device is adjusted to be more sensitive, alarms would sound when RFR levels are well below personnel exposure limits, resulting in unnecessary consternation. Generally, if the working environment is controlled adequately, no additional warning devices are deemed necessary and supplemental warning devices provide little benefit.

4. Contacts

Armstrong Laboratory (AL/OERS)
8305 Hawks Road, Bldg 1182
Brooks City-Base, TX 78235-5324
Comm (210) 536-3179
DSN 240-3179

References

- AFI 48-123 *Medical Examinations & Standards*
- AFI 48-145 *Occupational Health Program*
- AFI 91-301 *Air Force Occupational And Environmental Safety, Fire Protection, And Health (AFOSH) Program*
- AFOSH Standard 48-8 *Controlling Exposures to Hazardous Materials*
- AFOSH Standard 48-9 *Radio Frequency Radiation (RFR) Safety Program*
- AFOSH Standard 91-31 *Personal Protective Equipment*
- 29 CFR 1910.97 *Nonionizing Radiation*

Chapter 12. Public Health

A. Animal Bite (Rabies) Program

1. Introduction

Rabies is caused by a Rhabdovirus. The virus causes fatal encephalitis in all warm-blooded animals. The virus is usually transmitted through saliva from an infected animal, contaminating a bite wound, but can also occur through the contact of infected fluids on mucus membranes, by aerosol, and by corneal transplant. The saliva of ferrets, dogs and cats becomes infective three to five days before the illness is apparent clinically, and is the basis for a the ten day observation period for healthy pets that have been involved in a bite of a person. This rule is not consistent or proven for other animals. These animals should be killed and tested. The only way to determine if an animal is infected is to test its brain tissue. Factors affecting the probability of infection from an exposure include; the amount of virus inoculum, the virus virulence, the anatomic location of the exposure, and the immune defenses of

the victim. Approximately one half of the exposures result in transmission. The virus enters the peripheral nerves in the area of the exposure and is transported to the central nervous system (CNS) through the nerve. The transport typically requires one to three months but can be a few days to many years. After reaching the CNS, the virus rapidly multiplies and spreads, with early involvement of the limbic system. The virus then spreads to the salivary glands. Early symptoms of rabies infection in people include paresthesia at the site of exposure, malaise, fever, and headache. These symptoms progress to anxiety, confusion, agitation, delirium and insomnia over a period of two to ten days. The disease is usually fatal, and only symptomatic treatment is available after CNS infection occurs. The clinical diagnosis is supported by testing saliva for virus, skin biopsy to look for rabies antigen in cutaneous nerves, and serum and spinal fluid for antibodies to rabies. No single test is diagnostic.

Rabies is endemic in raccoons, skunks, bats, and foxes in the US, but can occur in any warm-blooded animal. Aggressive immunization programs in the US have reduced rabies cases in dogs and cats. In some communities, the mere presence of a bat in a room where someone was sleeping is adequate reason to receive treatment, even without a wound being found on the person. No rabies has been reported in Hawaii. Other parts of the world have high rabies rates in dogs. Consult current CDC guidelines for indications for pre and post exposure prophylaxis, wound care, and the use of rabies immune globulin.

2. Responsibilities

- PCM: The Primary Care Manager or treating physician ensures that proper wound care and management occur. The PCM initiates DD Form 2341 and ensures that it is promptly delivered to the Public Health Officer.
- PH: Public Health ensures accurate completion of DD Form 2341, and its final incorporation into the medical record. Public Health consults with the veterinary health service to ensure proper care of the animal involved.
- Veterinary Health Service: The Veterinary Control Officer (VCO) manages all facets of the Animal Rabies Control Program including registration, immunizations, training of support personnel, public education, and professional support to the confinement/quarantine facilities. The VCO will be informed of every bite will ensure appropriate observation or testing of the involved animal. The VCO will complete their sections of DD Form 2341
- Rabies Advisory Board: The Rabies Advisory Board usually consists of the SGP, the treating physician (PCM), and the Public Health Officer. It is assembled for all bites from; wild animals, unprovoked or vicious attack, animals exhibiting unusual behavior, and when the animal is unavailable for quarantine. Only physician members vote on treatment, and the board decision is recorded on DD Form 2341

3. SGP Specific Roles

- Provides overall professional oversight of the Animal Bite (Rabies) Program.
- Ensure current CDC protocols are available to the medical staff and incorporated into the Medical Group Instructions.

- President of the Rabies Advisory Board and reviews each DD Form 2341.
- Education of the Professional Staff on current wound management and rabies protocols.

5. Summary

Rabies is a fatal viral disease that can be prevented in most cases by prompt medical intervention at the time of an animal bite. Local epidemiology mandate very different approaches to the animal bite at each installation.

References

- AFI 48-105 Control of Communicable Disease
- AFI 48-131 Veterinary Health Services
- DD Form 2341
- <http://www.cdc.gov/ncidod/dvrd/rabies/>
- <http://www.cdc.gov/ncidod/dvrd/rabies/prevention&control/ACIP/ACIP99.htm>
- Health Services Inspection Guide EX.1.7.4

B. Food Safety Program

1. Introduction

The USAF Food Safety Program is outlined in AFI 48-116. Subsistence inspections, food facility sanitation inspections, and food handler training comprise the bulk of the medical responsibility for this program. The Public Health Office (SGPM) is primarily responsible for its execution. Flight Surgeons are expected to perform sanitation inspections while in garrison to achieve proficiency in performance of these inspections while deployed. The SGP should understand and directly participate in this program and comment to base leadership through the committee structure (AMC, MDG Executive Council) on the adequacy of the program and the training level and competency of the personnel executing this increasingly important program.

2. Overview of Roles/Responsibilities

- Installation Commander: The base commander is responsible for the establishment of a Food Safety Program (FSP) that is compliant with the Food and Drug Administration Food Code (Food Code) and the base commander ensures compliance with the Food Code. The base commander also ensures that deploying personnel are briefed on all mission threats to include food threats.
- Procurement Offices: Procurement authorities ensure that food is contracted only from approved sources. (PH is the local authority on the list of approved sources for food procurement.)
- Food Facility Managers: Food facility supervisors ensure proper storage, serving, and preparation of food, perform regular self-inspections, and ensure workers comply with medical standards.
- MTF Commander: The MTF commander ensures that sanitary inspections are performed.
- Aeromedical Council: The Aeromedical council (AMC) sets the schedule for sanitary inspections of food facilities based on previous inspection results and

threat of food borne illness. The AMC also determines medical requirements for workers.

- Flight Medicine Flight Commander (SGPF): SGPF schedules times for Flight Surgeons to perform sanitary inspections and coordinates with SGPM to pair Flight Surgeons with SGPM personnel performing sanitary inspections. SGPF also incorporates sanitary inspections into the orientation for new Flight Surgeon (48G1) training schedule.
- Public Health Office (SGPM):
 - ❑ Performs sanitary evaluations that assess: compliance with Food Code, effectiveness of food safety training, procurement of food from approved sources, food storage practices, effectiveness of self-inspections performed by food service supervisors, pest management, and food security
 - ❑ Provides or approves initial food handler training and provides annual food service supervisor training
 - ❑ Develops and annually exercises food borne illness investigation plans
 - ❑ Communicates with local civilian authorities regarding trends in food safety hazards including food borne illnesses
 - ❑ Ensures food delivered from prime vendors is inspected by a trained, responsible end-user with maintenance of a vendor quality history
 - ❑ Inspects food delivered from non-prime vendors on arrival for: approved sources, temperature control, and sanitary condition of delivery vehicle and packaging
 - ❑ Performs surveillance of government owned subsistence for wholesomeness
 - ❑ Monitors quantity, location, and serviceability of operational rations (MREs)
 - ❑ Initiates and closes out **ALFOODACT ()** investigations
 - ❑ Ensures completion of a food vulnerability assessment
- MAJCOM/SGPM: The MAJCOM/SGPM is the approval authority for Food Code waivers.

3. MTF/SGP's Specific Role(s)

- Provides professional oversight of FSP activities and exercises. Comments through appropriate channels on the effectiveness of the program, and training of personnel including flight surgeons. Encourages an integrated team approach that includes the Flight Medical Clinic (SGPF), SGPM, Services Squadron, Security Forces (for food security), and MTF health care providers (including Independent Duty Medical Technicians (IDMT's)).
- Advise the Base Commander, MTF Commander, Support Group Commander, AMDS/CC, and Services Squadron Commander on the status of the FSP and make medical and professional recommendations as necessary.

4. Summary

Team Aerospace plays a key role through the FSP in reducing the risk of food borne illness and intentional contamination. The MTF/SGP should coordinate closely with SGPM, command element to ensure a strong base FSP, train Flight Surgeons, and advise commanders of operational impacts.

References

AFI 34-239, *Food Service Management Program*

AFI 34-240, *Food Service Program Management*

AFI 48-101, *Aerospace Medical Operations*

AFI 48-116, *Food Safety Program*

HSI Guide, Element EX.1.7.1 Subsistence Inspection Activities

HSI Guide, Element EX.1.7.2 Food Facility Sanitation Evaluation and Foodhandler Training

The current FDA Food Code is available on line at: <http://wwwsam.brooks.af.mil/eh/html/food.htm>

DRAFT AIR FORCE GUIDE TO FOOD AND WATER SYSTEMS FORCE PROTECTION

C. Public Facility Surveillance

1. Introduction

The USAF Public Facility Sanitation Program is outlined in AFI 48-117. It is essentially a checklist for inspection of public facilities. Medical personnel ensure healthy environments in public facilities and advise Quality Assurance Evaluators (QAEs) for service contracts in public facilities on health issues. Commercial lodging facilities, Family Home Day Care (FHDC) and the Child Development Center (CDC) are the primary foci of this program in garrison. The Public Health Office (SGPM) is primarily responsible for its execution. Flight Surgeons are expected to perform sanitation inspections while in garrison to achieve proficiency in performance of these inspections while deployed.

2. Overview of Roles/Responsibilities

- MTF Commander: The MTF commander ensures that sanitary inspections are performed.
- Aeromedical Council: The AMC sets the sanitary inspection frequency for public facilities (not less frequently than annually).
- Flight Medicine Flight Commander (SGPF): SGPF schedules times for Flight Surgeons to perform sanitary inspections and coordinates with SGPM to pair Flight Surgeons with SGPM personnel performing sanitary inspections. SGPF also incorporates sanitary inspections into the orientation for new Flight Surgeon (48G1) training schedule.
- Public Health Office (SGPM):
 - Ensures that public facility sanitation standards are incorporated into contract requirements or housekeeping Standard Operating Procedures (SOPs)
 - Notifies QAEs of sanitation problems
 - Evaluates effectiveness of sanitation management programs in public facilities
 - Ensures that CDC and FHDC personnel are task-certified to conduct daily and monthly health inspections
 - Performs annual, unannounced, comprehensive health inspections of the CDC (coordinated with a multidisciplinary team to evaluate fire, safety, and health programs)

- Performs annual health inspections of at least 10% of FHDC homes
- Coordinates closely with the FHDC coordinator to ensure health and sanitation requirements are met
- Routinely assesses immunization currency of children enrolled in the CDC and FHDC programs
- Inspects commercial lodging facilities when initially considered for use and in response to complaints by guests and health discrepancies are found during lodging and contracting annual visits
- Inspects public showers, saunas, pools and other bathing facilities, locker rooms, laundry facilities, beauty and barbershops, and base housing for sanitary condition

3. MTF/SGP's Specific Role(s)

- Provides professional oversight of the overall Public Facility Sanitation Program. Reports to the command element on the effectiveness and quality of the program, and the status of the program using the Aeromedical Council. Advise the Base Commander, MTF Commander, and make professional recommendations as necessary.
- Educates the professional staff, particularly flight surgeons on the program. Educates flight surgeons so they are adequately prepared to accomplish this task when deployed.
- Coordinate with SGPM to.

4. Summary

Team Aerospace plays a key role in public facility sanitation in reducing the risk of illness. The MTF/SGP should coordinate closely with SGPM, AMDS/CC, and the MTF/CC to ensure a strong base public facility sanitation program, train Flight Surgeons, and advise commanders of operational impacts.

5. References

AFI 34-246, *Air Force Lodging Program*
 AFI 34-248, *Child Development Centers*
 AFI 34-276, *Family Child Care Programs*
 AFI 48-101, *Aerospace Medical Operations*
 AFI 48-117, *Public Facility Sanitation*
 HSI Guide, Element EX.1.7.3 Public Facility Surveillance

D. Prevention and Control of Sexually Transmitted Diseases (STD)

1. Introduction

There are over 25 major infectious agents that cause STD's. The most important diseases at this time are chlamydia, gonorrhea, syphilis, hepatitis B, and human immunodeficiency virus (HIV). New treatment guidelines are published by the CDC every four years. Control of these diseases require appropriate treatment and follow-up of the individual as well as aggressive contact identification and treatment. The

HIV program is governed by AFI 48-135 and is administrated through the MTF designated HIV physician.

- PCM: The Primary Care Manager or treating physician manages the patient using standard CDC protocols. Every patient with an STD is referred to Public Health within 48 hours, and immediate referral is preferred if it is practical. Each patient with an STD must be tested for HIV and syphilis. HIV testing is also required every 5 years during the PHA, every 3 years during a long flight physical, within 12 months of a small pox shot, deployment or consecutive overseas tours, before permanent change of station over seas or upon entry to drug or alcohol treatment programs or incarceration, and if newly diagnosed with tuberculosis, significant exposure (needle stick, sexual contact) or otherwise clinically indicated. Counseling for anyone who is HIV positive will be conducted by a physician, preferably the MTF designated HIV physician. All HIV positive active duty personnel are referred to Wilford Hall Medical Center for medical evaluation and follow-up. Civilian employees are tested for HIV to comply with host nation requirements and in occupationally related exposures. Civilians must receive counseling and give informed consent before HIV testing. Informed consent is not required for active duty members.
- PH: Public Health provides disease specific and preventative education. Contact tracing is preformed, and all sexual contacts are referred for medical care and counseling. Patient confidentiality must be protected. PH must review all lab logs of positive tests for reportable STD's. Civilian sexual contacts of confirmed STD's are reported to the appropriate public health authority. Rapidly increasing STD rates or antibiotic resistance patterns are reported to the Epidemiologic Research Division, Armstrong Laboratory. PH is responsible for monitoring HIV positive active duty personnel and reporting to gaining PH for transferring personnel.
- Laboratory: Must report all positive results for reportable STD's to PH.
- Epidemiologic Research Division, Armstrong Laboratory: confirms increasing incidence of STD or antibiotic resistance pattern, and advises on appropriate action.

2. SGP Specific Roles

- Ensure current CDC protocols are available to the medical staff and incorporated into the Medical Group Instructions.
- Consultant to Public Health for program and medical issues.
- Supervision of Flight Medicine and Public Health programs.
- Education of the Professional Staff on current STD screening, treatment and follow-up.

3. Summary

STD's are increasing in incidence and are an important threat to health. Aggressive education, surveillance, treatment, follow-up and contact investigation are required to achieve control of these diseases.

References

AFI 48-1 Aerospace Medical Program

AFI 48-101 Aerospace Medical Operations

AFI 48-106 Prevention and Control of Sexually Transmitted Diseases

AFI 48-135 Human Immunodeficiency Virus Program

RCS: HAF-SGP(A)9214, Annual Report of the STD Prevention and Control Program

<http://www.cdc.gov/nchstp/dstd/dstdp.html>

Health Services Inspection Guide EX.1.7.6

E. Tuberculosis (Tb) Prevention (Program)

1. Introduction

Mycobacterium tuberculosis infects 1/3 of the world's population and is a leading cause of death worldwide. A decrease in control efforts, and the advent of HIV infected patients in the 1980's allowed an escalation of Tb rates in the United States and created a large reservoir of people with latent infection. Current locations where our troops are deployed have very high rates of clinical and infectious Tb. Troops redeploying may well have high rates of positive Tb skin tests and some clinical Tb cases.

Tb is transmitted by aerosolized droplet. Infectivity is increased by the severity of infection (increased number of bacilli and active cough), location (tracheal), organism virulence and prolonged exposure in a warm poorly ventilated area. Infection is followed by a 10% risk of active disease over a lifetime with 5% of that risk in the first two years after infection.

Control of Tb is accomplished by screening at-risk populations, identifying those with Tb, appropriate treatment of both latent and active Tb, and follow-up to ensure completion of therapy for latent Tb and cure of clinical Tb. Latent infection is detected by skin testing new accessions, those who have been stationed or deployed to a high-risk overseas location, medical and prison personnel, and immunosuppressed individuals. All individuals with a reaction of 5 mm or greater are referred by Immunization Section to Military Public Health where an interview is accomplished. The interpretation of a reactive skin test by a Physician is based on current CDC guidelines. A person is presumed to have active Tb by symptoms (productive cough, hemoptysis, fever, night sweats, weight loss). The chest x-ray may demonstrate apical infiltrates. The skin test is negative in up to 20% of cases. Definitive diagnosis is made by sputum culture, which also allows identification of resistant organisms.

2. Procedures:

- PCM or Flight Medicine: The Primary Care Manager or Flight Medicine evaluates the patient with a potential Tb infection. First priority is to determine the patient is not infectious and is not a threat to spread Tb throughout the community. After clinical infection is ruled out, the patient is managed for latent Tb using standard CDC protocols. Follow-up of each person being treated for

latent Tb usually occur at monthly to monitor for compliance, treatment success and adverse reactions.

- **PH:** Public Health interviews every person with a Tb skin test reaction greater than 5 mm, and baseline history is obtained. If clinical Tb is suspected, immediate consultation to a physician is made and a disposition is obtained that day. AF Form 2453 is initiated. A CXR is ordered and reported by a radiologist to PH. PH tracks each patient at monthly intervals and finalizes AF Form 2453 when treatment is completed. Public Health is also involved in Tb education, epidemiology, and ensures adherence to AFI and CDC guidance. Public Health participates in the Infection Control Committee, ensuring compliance with appropriate workplace guidelines. Public Health informs appropriate medical and command authorities of any needed follow-up. Public Health ensures that complete patient and epidemiologic data are entered into the Air Force surveillance system (AFRESS).
- **CC:** The installation commander ensures that individuals report for required testing.
- **MPF:** The Military Personnel Flight ensures that all out-processing personnel receive any required testing.
- **MDG/CC:** The Medical Group Commander ensures proper reporting, testing, case investigation, and case management. AFI 48-101 address Tb management but has not been updated since more recent CDC guidance has been released, so current CDC protocols should be consulted.

3. SGP Specific Roles

- Provide professional oversight of the overall program, report to the command element on the effectiveness and quality of the program. Monitor the program through Aeromedical Council with attention to the rate of positive skin tests, new clinical cases, number of patients starting therapy for clinical Tb and for latent Tb, numbers successfully completing therapy, and complications.
- Ensure current CDC protocols are available to the medical staff and incorporated into the Medical Group Instructions. Educate Flight Surgeons, Professional Staff, and other key personnel on the Tb Prevention Program.
- Makes sure the focus of the program is the prevention of Tb cases, thus protecting the active duty force from this historic disease of military consequence.

4. Summary

Prevention and control of tuberculosis is essential to maintain a fit force. The increasing number of deployments with host nation and coalition interaction increases the exposure of USAF personnel to this disease. Proper treatment of active disease is essential to ensure that Tb is not spread within personnel and that drug resistant tuberculosis is created.

References

- AFI 48-115
- <http://www.cdc.gov/nchstp/tb/>

- Health Services Inspection Guide EX.1.7.7
(http://afia.kirtland.af.mil/SG_PUBLIC/SG-HSIG/2003-AD-HSI-Guide/2003%20AD-HSI-Guide.htm)

Chapter 13. Readiness and Deployment Support

A. Deployment Line Support

1. Introduction

The deployment processing line is the last stop for personnel deploying away from home station. The Personal Deployment Function (PDF) is responsible for the final processing of all personnel deploying. Only two stations are required, one for deployment eligibility, and one for immunizations. Other stations are optional but usually include legal services, chaplain, finance, and family support. Medical support includes review of medical records to ensure physical standards are being met, pre-deployment medical threat briefs, last minute medication refills, and administration of required immunizations. They also ensure DD Form 2766 is updated and available for each deploying member, ensure required chemical prophylaxis is obtained for each deploying member, and pre-deployment questionnaires are administered and reviewed for each deploying member. Each base develops their own Installation Deployment Plan (IDP) that defines the local processes, procedures, infrastructure, and resources used to deploy forces. The IDP contains detailed deployment guidance on how units will deploy from the installation and reflects current deployment processes and mission. This document is the source for how the PDF runs the deployment line, when it is activated, and who will support it. The final medical review of all deploying personnel ensures each person is physically ready to hit the ground running and perform their assigned duties.

2. Overview of Roles/Responsibilities

- The Surgeon General (HQ USAF/SG): Establishes policy guidance for Air Force medical, immunization, and dental support (including personnel, equipment, and personal medical information) during deployment operations.
- Medical Group Commander (MDG/CC): Ensures that assigned personnel to Unit Type Codes (UTC's) maintain a high state of readiness and meet personnel deployment preparation requirements. Ensures UTC's based in the Medical Group (MG) are both ready in regards to personnel issues and equipment. Ensures the pre- and post-deployment assessments are conducted for deploying personnel (Ref JCS Memo dated 1 Feb 02, Subj: Updated Procedures for Deployment Health Surveillance and Readiness). Provides trained individuals to the PDF when activated as required by local procedures. Provides a current DD Form 2766, Preventative Health Assessment (PHA), for all deploying personnel. DD Form 2766 may be hand-carried by the individual or bulk shipped via courier in a properly sealed envelope with the following information on the package: "Sensitive Medical Information - To be opened by Medical Personnel Only". The 2766 may also be hand-carried by Squadron Medical Element (SME) personnel deploying with the Unit. Provides copies of the most current DD Form 2766, Preventative Health Assessment (PHA) and/or AF Form 1042, Medical Recommendation for Flying or Special Operational Duty, for deploying personnel on flying status. The DD Form 2766, Preventative Health Assessment (PHA)

and/or AF Form 1042 will be retained by the medical personnel, troop commander, or other responsible agents and delivered to the sustainment medical personnel at the deployed location. Ensures medical intelligence on health threat is used to prevent diseases from needlessly incapacitating personnel. Recommend intelligence information be disseminated to all deploying personnel before departure. Advises commanders on the availability of unit personnel enrolled in the substance evaluation process, the alcohol and drug abuse prevention and treatment (ADAPT) program. Conduct the wing chemical-biological quantitative fit training (QNFT) program. Ensures adequate supplies of chemical prophylaxis are available for assigned UTC personnel on the base.

- Public Health: Provide pre-deployment preventive medicine briefings to all deploying personnel. Distribute, assist in the completion of, and collect both pre-deployment and post-deployment questionnaires. Report important findings to the Aeromedical Council (AMC).
- Flight Surgeon and medical technicians: Review medical records and validate deployment status, administer required vaccines, draw lab specimens as required, ensure current Tb testing, review pre-deployment questionnaires, ensure DD Form 2766 filled out correctly, refill required medications, assist in pre-deployment health brief, and accomplish whatever else is needed to get deploying personnel out-the-door.

3. MTF/SGP's Specific Role(s)

- Collaborate with MGG/CC to ensure medical support section of IDP continuously is updated.
- Ensure pre/post deployment health questionnaires filled out according to JCS Memo 2 Feb 02.
- Coordinate with medical intelligence officer for pre-deployment health brief.
- Provides professional oversight of the MDG immunizations program on the required immunizations needed for deployment scenarios.
- Provides professional oversight on the quality of DD Form 2766 and that it is correctly completed. Alert the providers of its importance in the deployment process.
- Provides professional oversight of the educational process of providers and medical technicians so that they receive adequate training and understanding of AFI 48-123 to validate each person's deployability from a medical standpoint.
- Provide professional oversight on the appropriate chemical prophylaxis available based on deployment scenario
- Collaborate with operational squadron commanders and mobility planners to incorporate medical support early in contingency planning.

4. Summary

Team Aerospace plays a key role in the execution of the deployment processing line. The importance of the process cannot be overstated. The deployment processing line allows for a final medical review of our deploying troops. Once validated from a medical standpoint each person should physically be ready to immediately perform their duties at a deployed location. The deployment line also allows for dissemination

of information via preventative medicine briefs, the ability to administer needed vaccines, and the ability to distribute required chemical prophylaxis for medical threats predicted at the deployed location. Deployment processing lines done correctly ensure our deployed commanders have a fit force. Incorrectly executed The MTF/SGP may find a bill from the home installation commander for the cost of returning an unqualified deployed member.

References

- DODD 6490.2, *Joint Medical Surveillance*
- DODD 6490.3, *DoD Immunization Program for Biological Warfare Defense*
- Joint Staff Memorandum MCM-0006-02, 1 February 2002, *Updated Procedures for Deployment Health Surveillance and Readiness*
- AFDD 2-4.2, *Health Services*
- AFI 10-403, *Deployment Planning*
- AFI 41-106, *Medical Readiness Planning and Training*
- AFJI 48-110, *Immunizations and Chemo prophylaxis*
- AFI 48-123, *Medical Examinations and Standards*

B. Deployment Medical Briefs

1. Introduction

The deployment medical briefs occur during deployment processing and are given as each chalk (package of deploying personnel) processes. The purpose of the brief is to provide information to deploying personnel identifying health threats and countermeasures to include applicable immunizations and other pre-exposure investigational new drugs such as pyridostigmine bromide. Preparation for the brief involves the Medical Intelligence Officer (MIO) preparing a medical threat assessment for the deployment location. Subsequently the brief is delivered by the MIO, a Flight Surgeon, or a public health technician. The focus of the brief is on what to expect and how to prevent illness and injury while deployed. The information the MIO obtains for the brief allows the deploying medical team to modify equipment and medications based on the deployment location and perceived threats. It also allows the medical processing team to obtain required vaccines, medications, and lab testing capability, depending on the given scenario.

2. Overview of Roles/Responsibilities

- MDG/CC: It is the responsibility of the medical commander to appoint a MIO and ensure deployment medical briefs are performed during the deployment processing line.
- MIO: Prepare medical threat assessments for deployment locations. Provide pre-deployment preventive medicine briefings to the medical and line commanders, the deploying medical team, and all deploying personnel. Coordinate an alternate briefer if unavailable.

3. MDG/SGP's Specific Role(s)

- Collaborate with the MIO on the preparation of, and provide professional oversight of the deployment medical brief delivered to deploying personnel. with MIO to prepare the

4. Summary

The deployment medical brief is the last chance Team Aerospace has to educate and inform our deploying personnel about the health threats present at the deployed location. It needs to be well thought out and succinct. In addition to discussing threats the brief should also present countermeasures to combat the threats. If the brief does its job at least 1 person will prevent a needless injury or illness and the deployed medical team will have at least 1 less person to treat.

References

- DODD 6490.2, *Joint Medical Surveillance*
- Joint Staff Memorandum MCM-0006-02, 1 February 2002, *Updated Procedures for Deployment Health Surveillance and Readiness*
- AFDD 2-4.2, *Health Services*
- AFTTP 3-42.7, *Aerospace Medical Contingency Ground Support Systems*
- AFI 41-106, *Medical Readiness Planning and Training*
- AFI 48-101, *Aerospace Medical Operations*

C. Deployment Planning

1. Introduction

Deployment planning and preparation is essential to support operational objectives during wartime or contingencies and must be afforded sufficient command emphasis to ensure unit readiness. Generally mobilization begins with a warning order which is followed by an alert order (recall) and then an execute (deployment) order. The execute order specifies the C-Day, the un-named day on which a deployment operation commences or is to commence. The deployment may be movement of personnel, cargo, or a combination of these elements utilizing any or all types of transport.

Base operational support (BOS) at the deployed location must provide the goods and services to sustain operation of a deployed medical element for the duration of a deployment. The success of the mission lies in the initial establishment of an operating location and BOS. All locations require support of some kind. Messing; Billeting; Petroleum, Oils, Lubricants (POL); real estate and other support requirements for deployed medical elements will need to be coordinated with the planners and ADVON (???) teams.

Once a warning order is issued the Medical Intelligence Officer (MIO) can begin to prepare a Medical Threat Estimate (MTE) for the deploying commander encompassing all three deployment stages (predeployment, deployment, and post-

deployment). The MTE provides a clear picture of the entire spectrum of medical issues for forces associated with any given deployment, thus ensuring force health protection. The estimate must include a thorough description of the human performance threats in anticipated operational environments such as sustained operations, crew scheduling, combat stress, night operations, and operational intelligence with human performance considerations (e.g. laser and NBC threats). To ensure the most accurate medical threat estimate, intelligence requirements must be defined, refined to the specific situation, and tailored to meet the current deployment. It is critical that the MTE is current and as definitive as possible to ensure that personnel are not exposed to threats that will cause adverse health impact during the mission and after the mission is complete. The MTE also allows deploying medical personnel to adjust supplies and medications for the deployed environment. If medical equipment UTC's are tasked then coordination with logistics and transportation will be necessary to palletize and deliver equipment when scheduled. Deploying personnel need to know what equipment they have and how to set it up.

Ultimately the best preparation is to study and be involved in Wing's plans for deployment scenarios. Most personnel involved in planning for deployments will have no clue about what the medics need or what they can offer. A Deployment Process Working Group (DPWG) is established at each installation. At a minimum, participants will include group commander representatives and representation from the following functional areas: Wing Plans, Logistics Plans, Manpower, Personnel, Supply, Transportation, Communications, Tenant units, and other functional areas as determined by the IDO. The DPWG will assist in formulation of installation deployment guidance and development of the Installation Deployment Plan. The working group will meet at least semi-annually or as directed by MAJCOM guidance. The DPWG members will maintain awareness of installation taskings. Involvement in any planning meeting is imperative to making sure that deployed medical persons have what they need to take care of those deployed with them.

2. Overview of Roles/Responsibilities

- MDG/CC: Ensures medical intelligence on health threat is used to prevent diseases from needlessly incapacitating personnel. Ensure medical representation to DPWG.
- MIO: Before deployments, MIO should work with line intelligence personnel to establish an AFMIC Medical Intelligence product requirements statement. They should be proactive in using all medical intelligence sources available to prepare medical threat assessments for potential deployment locations so that medical risks are included in pre-deployment threat briefs. MIO's provide pre-deployment preventive medicine briefings to the medical and line commanders, the deploying medical team, and all deploying personnel.

3. MDG/SGP's Specific Role(s)

- Provide professional oversight, and collaborate with the MIO in the preparation of the MTE.

- Collaborate with operational squadron commanders and mobility planners to incorporate MIO early in contingency planning.
- Collaborate with Medical Readiness to ensure all medical personnel subject to deployment are familiar with equipment packages and obtain required deployment training.
- Perform exercises with Team Aerospace to work through deployment scenarios.

4. Summary

Team Aerospace plays a key role in developing medical deployment plans. Early involvement at the Wing level is the key to accomplishing the goals of providing outstanding medical care and preventing disease, illness, and injuries. The other half of the equation is planning for multiple scenarios and ensuring that the medical persons deployed are mobility ready, well trained on the deployment process, and competent in AFSC specific skills and equipment handling. Only through involvement and exercising with the Wing can our Medics be an asset and not a hindrance to the deployment process.

References

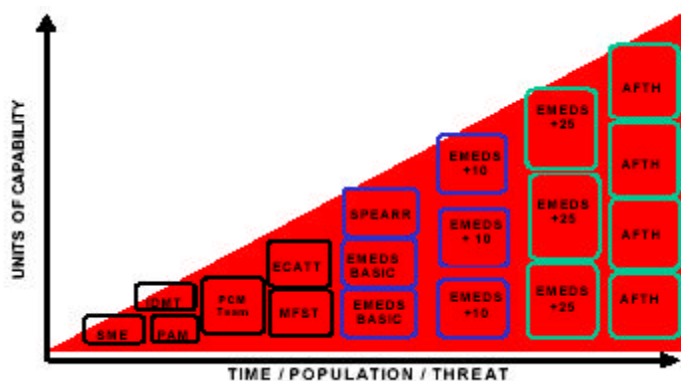
- AFI 10-403, *Deployment Planning*
- AFI 41-106, *Medical Readiness Planning and Training*
- DODD 6490.2, *Joint Medical Surveillance*
- DODD 6490.3, *DoD Immunization Program for Biological Warfare Defense*
- Joint Staff Memorandum MCM-0006-02, 1 February 2002, *Updated Procedures for Deployment Health Surveillance and Readiness*
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- AFTTP 3-42.7, *Aerospace Medical Contingency Ground Support Systems*
- AFI 10-403, *Deployment Planning*
- AFI 41-106, *Medical Readiness Planning and Training*
- AFJI 48-110, *Immunizations and Chemo prophylaxis*
- AFI 48-123, *Medical Examinations and Standards*

D. EMEDS/AFTH

1. Introduction

The Aerospace Medical Contingency Ground Support System and Air Force Theater Hospitalization (AFTH) represent the cornerstone of medical support to AEF forces deployed in any worldwide contingency. The mission of the Aerospace Medical Contingency Ground Support System is to rapidly deploy and provide forward stabilization (ATLS and limited surgical interventions), primary care, dental services, force health protection, and to prepare for aeromedical evacuation of aerospace expeditionary forces or civilian casualties, as appropriate. This system optimizes war fighter performance by delivering essential care targeted to maximize unit effectiveness, readiness, and morale with minimal cost in terms of weight, lift, and forward footprint. The Aerospace Medical Contingency Ground Support System is composed of Unit Type Code (UTC) building blocks that provide personnel and

equipment to meet specific operational requirements. These UTC building blocks are combined to create medical support systems that are modular, incremental, and interoperable, enabling force commanders to dial up or dial down Air Force medical capability as needed. The spectrum of medical capabilities in the Aerospace Medical Contingency Ground Support System begins with squadron medical elements (SMEs) and independent duty medical technicians (IDMT's), continues through Expeditionary Medical Support/Air Force Theater Hospital (EMEDS/AFTH), and ends with 100 plus-bed Air Force Theater Hospital (AFTH) facilities. EMEDS/AFTH provides medical support for operations with populations at risk (PAR) from 0-5000 and is itself modular and incremental, being divisible into seven configurations: SPEARR, EMEDS Basic (modules 1-3), EMEDS+10 Bed AFTH, and EMEDS+25 Bed AFTH.



The SGP is involved throughout the spectrum of medical support. The SGP is the lead component for Team Aerospace, deploying with the first module of the EMEDS basic as the initial increment of the Preventive Aerospace Medicine (PAM) team (FFGL2 UTC). The SGP provides limited aerospace

medicine support, primary care, initial site survey, and preventive medicine planning for water, food, sanitation, pest/vector control, sewage, and the site bed-down. As the remainder of the EMEDS increments arrive, the SGP transitions to the leader of Team Aerospace and executes all aerospace and preventive medicine activities through an integrated team approach that includes deployed flight medicine, bioenvironmental engineering, public health, and medical readiness personnel.

2. Overview of EMEDS/AFTH Configurations

- **SPEARR**: The Small Portable Expeditionary Rapid Response (SPEARR) team is the leading edge of EMEDS Basic and provides the operational support required to provide medical care in operations with a PAR of less than 500. The SPEARR team fits the definition of a Level 2[‡] (Casualty Collection and Forward Resuscitative Surgery) capability. It provides a rapid response, extremely mobile, forward resuscitative, and preventive medicine and environmental health medical capability.
- **EMEDS Basic**: Provides the operational support required to provide medical care in operations with a PAR from 500-2000. In total, EMEDS Basic provides Level 2 capability. Specifically, it provides 24-hour sick call and emergency medical care plus the following capabilities: medical command and control (C2), preventive medicine, trauma resuscitation and stabilization, limited general and

[‡] Levels (or echelons) of care: Each level of care reflects an increase in medical capability. Level 1 – first aid. Level 2 – resuscitative care (ATLS). Level 3 – definitive care (surgical interventions). Level 4 – rehabilitative and convalescent care.

orthopedic surgery, critical care, primary care, aeromedical evacuation coordination, aerospace medicine, urgent care, dental, and limited ancillary services. EMEDS Basic has four holding beds and provides a limited holding capability of less than 24 hours. Timely aeromedical evacuation support is therefore critical to mission success. Definitive medical/dental care is deferred to CONUS or supporting theaters. EMEDS Basic deploys with 7 days of supplies and must be supported by Expeditionary Combat Support (ECS) to be fully functional. EMEDS Basic consists of 3 modules based on UTC's that can be deployed/redeployed incrementally to match expansions and contractions in the supported deployed forces.

- Module 1: This module is the Medical ADVON team and consists of an Aerospace Medicine Physician and a Public Health Officer (an IDMT or BEE may be substituted for the PHO based on mission requirements and with the approval of the EMEDS commander). This module provides limited aerospace medicine support, primary care, initial site survey, and preventive medicine planning for water, food, sanitation, pest/vector control, and sewage. The team coordinates with civil engineering and services squadrons to ensure preventive medicine concepts are included in site bed-down.
- Module 2: This five-person surgical module of EMEDS Basic arrives with the next increment of personnel. This 2nd module achieves initial operational capability (IOC) within 15 minutes of arrival of the Mobile Field Surgical Team (MFST) at the shelter of opportunity with its equipment. This module provides emergency medical and surgical trauma care for AEF first deployers during the high-risk period of base build-up. Shelters of opportunity are used pending arrival of the tentage accompanying Module 3. Personnel deploy with man-portable surgical backpacks.
- Module 3: The remaining 18 personnel of the EMEDS Basic package and three pallets of equipment arrive within 24 hours of the MFST (Module 2). Full operational capability (FOC) for EMEDS Basic is attained when facility and clinical functional areas (aerospace medicine, preventive medicine, dental, primary care, command and control, emergency care, critical care, and surgical capability) are established (normally within 12 hours).
- EMEDS+10/25: Provides a Level 3 (Theater Hospital) health service support capability. These enhanced clinical capabilities are historically found in a medical treatment facility (MTF) located in a lower-level threat environment. These AFTHs are staffed and equipped to provide a high level of resuscitation, initial wound surgery, and post-operative treatment. This level of care is the first step toward restoration of functional health, as compared to procedures that stabilize a condition to prolong life.
 - EMEDS+10: Provides medical/dental care in operations with a PAR of 2000-3000. Included in this capability are 10 inpatient beds.
 - EMEDS+25: Provides medical/dental care in operations with a PAR of 3000-5000. Included in this capability are 25 inpatient beds (cumulative).

3. MDG/SGP's Specific Role(s)

- All SGPs are prone to deployments. They need to make sure that they and their team members are ready to deploy. They should obtain formal EMEDS training at the earliest opportunity.
- The SGP is the professional leader of the deployed Team Aerospace (PH, BES, HP, and Flight Medicine/PES).
- The responsibilities of a deployed SGP are the same as those of the SGP in garrison. They are the deployed expert in aerospace, occupational, and preventive medicine. They need to keep the base personnel fit and healthy to be able to fight a war. They accomplish this by becoming familiar with all aspects of base operations with the aim of identifying hazards to prevent injuries and illnesses.

4. Summary

As the US Air Force provides timely and effective combat forces to combatant commanders in support of theater objectives, EMEDS/AFTHs support those operations by providing a modular and flexible theater hospitalization capability. The EMEDS/AFTH is divided into three major increments: EMEDS Basic, EMEDS+10 Bed AFTH, and EMEDS+25 Bed AFTH. The SGP is involved in all these increments, beginning with the medical ADVON team in EMEDS Basic Module 1 and ending as the Team Aerospace leader for any of the EMEDS configurations. As such, the SGP continues to be a key player in providing medical support for the installation operational mission whether in garrison or deployed.

References

- AFDD 2-4.2, *Health Services*
- AFTTP 3-42.7, *Aerospace Medical Contingency Ground Support System*
- Expeditionary Medical Support (EMEDS) Concept of Operations

E. Quantitative Mask Fit Program

1. Introduction

The Air Force has implemented a program to perform Quantitative Fit Training for NBC protective masks (QNFT program). This is a joint program conducted by the Bioenvironmental Engineering (BES) and Civil Engineer Readiness (CEX) Flights. The quantitative method determines how well the mask fits the wearer. In the past the Air Force used subjective qualitative (go/no go) methods to determine if the gas masks fit. QNFT does not rely on an individual's smell and taste sensitivity to a test agent. QNFT involves measuring the dust concentration in the atmosphere and inside the mask cavity, and calculating a fit factor (FF). The higher the FF, the better the fit. The Air Force selected a FF of 2000 as a division between "adequate" and "poor" fitting gas masks. The purpose of the NBC mask QNFT program is to enhance NBC defense training, help Air Force personnel maximize their NBC mask protection, and instill mask confidence. The NBC mask QNFT program applies only to negative pressure masks designed specifically for use in an NBC environment. This program is

intended to be a training aide rather than a certification tool to ensure personnel meet or exceed the minimum target FF.

QNFT Timetable.

Anytime	A new mask is issued, the wearer gains/loses 10% or more pounds of body weight based upon their weight at QNFT, or the wearer experiences extensive dental work, facial surgery, scarring, or disfigurement.
NBC Low Threat Area (LTA)	Within 90 days of assignment to a mobility position, or prior to deploying to a medium threat area (MTA) or high threat area (HTA), whichever comes first.
NBC Medium Threat Area	Within 60 days of permanent change of station (PCS) arrival in MTA, or prior to deploying to MTA or HTA, whichever comes first.
NCB High Threat Area	Within 30 days of PCS arrival in HTA, or prior to deployment to MTA or HTA, whichever comes first.

2. Overview of Roles/Responsibilities

- **BES:** Bioenvironmental Engineering brings to QNFT expertise in selecting and quantitatively fitting industrial respirators. BES serves as the installation's QNFT Program Office of Responsibility (OPR). They develop an installation QNFT implementation plan with assistance from CEX. They fit test personnel on a workshare basis with CEX and contracted sources, if necessary. BES personnel should be trained by CEX to operate both the M-41 Protection Assessment Test System (PATs) and the PortaCount®, and troubleshoot NBC mask problems. BES is responsible for plans, programs, and budgeting (PPB) for PortaCount® consumables, calibration, and maintenance. As part of the program overview tracking, BES prepares and provides to MAJCOM/SGPB/CEX a quarterly consolidated QNFT report IAW AFMAN32-4006 2.7.2.1.
- **CEX:** Civil Engineering Readiness has expertise and overall responsibility for NBC mask programs. CEX serves as the installation's QNFT Program Office of Collateral Responsibility (OCR). CEX ensures test administrators are trained to operate both the M-41 PATs and the PortaCount®, and troubleshoot NBC mask problems. CEX is responsible for PPB for M-41 consumables, calibration, and maintenance. They fit test personnel on a workshare basis with BES and contracted sources, if necessary.
- **AMDS/CC:** The AMDS commander establishes procedures to conduct medical evaluations and referrals and make medical recommendations to unit commanders as necessary in support of the QNFT program. It is suggested that the commander designate one health care provider for all QNFT referrals. They employ pre-deployment medical screening mechanisms to ensure personnel receive QNFT according to requirements.
- **Unit/CC:** Unit commanders ensure personnel obtain QNFT according to requirements.

3. MTF/SGP's Specific Role(s)

- Ensure that the QNFT program activities are executed with an integrated team approach that includes BES, CEX, and MTF health care providers.
- Collaborate with AMDS/CC to establish procedures to conduct medical evaluations and referrals and make medical recommendations to unit commanders as necessary in support of the QNFT program.
- Assist the AMDS/CC in the designation of a qualified health care provider for all QNFT referrals.
- Review QNFT program data for trends and indicators for new NBC mask program issues.

4. Summary

Team Aerospace plays a key role through the QNFT in ensuring the USAF's ability to survive and operate in a NBC environment. The MTF/SGP should integrate with BES, CEX, and the AMDS/CC on the QNFT program and can be particularly valuable in coordinating the medical evaluation process for personnel with medical conditions possibly precluding valid mask testing.

References

- AFMAN 32-4006, *Nuclear, Biological, and Chemical (NBC) Mask Fit and Liquid Hazard Simulant Training*
- AFH 32-4014V4, *USAF Ability to Survive and Operate Procedures in a Nuclear, Biological, and Chemical (NBC) Environment*

F. Medical Intelligence Officer

1. Introduction

Medical intelligence is that category of intelligence concerned with infectious diseases and environmental health factors that could degrade the effectiveness of forces deploying to foreign lands. Medical intelligence uses "all-source" intelligence, broadly including both classified and unclassified sources. The purpose of medical intelligence is to conserve the fighting strength of friendly forces; support deployment and medical planning; and to assess foreign health care systems in both military and civilian sectors. As the direct liaison between the medical unit and the line intelligence community, the Medical Intelligence Officer (MIO) is the single point of contact within Team Aerospace for access to Medical Intelligence information and products. The MIO provides a Medical Threat Estimate (MTE) to the commander for all three deployment stages (predeployment, deployment, and post-deployment). The MTE provides a clear picture of the entire spectrum of medical issues for forces associated with any given deployment, thus ensuring force health protection. The estimate must include a thorough description of the human performance threats in anticipated operational environments such as sustained operations, crew scheduling, combat stress, night operations, and operational intelligence with human performance considerations (e.g. laser and NBC threats). To ensure the most accurate medical threat estimate, intelligence requirements must be defined, refined to the specific situation, and tailored to meet the current deployment. It is critical that the MTE is

current and as definitive as possible to ensure that personnel are not exposed to threats that will cause adverse health impact during the mission and after the mission is complete. The responsibility for Medical Intelligence and the preparation of the Medical Threat Estimate falls primarily to the Public Health flight.

2. Overview of Roles/Responsibilities

- MTF/CC: It is the responsibility of the medical commander to appoint a medical intelligence officer. This should be the Public Health Officer or an experienced Public Health NCO. If Public Health personnel are not available, the best-qualified individual may be appointed. Personnel assigned Medical Intelligence duties must attend the USAFSAM Public Health Contingency Operations Course and the AFMIC Medical Intelligence Course within one year of assignment.
- MIO: Responsibilities of this individual encompass all phases of deployment. Before deployments, they should work with line intelligence personnel to establish an AFMIC Medical Intelligence product requirements statement. They should be proactive in using all medical intelligence sources available to prepare medical threat assessments for potential deployment locations so that medical risks are included in pre-deployment threat briefs. They provide pre-deployment preventive medicine briefings to the medical and line commanders, the deploying medical team, and all deploying personnel. Upon arrival at the deployment location, they assist the unit commander in planning site selection and facility set-up to facilitate sanitation and hygiene. During the deployment, they compile and analyze incidence of diseases, illnesses, injuries, or any other degradation of human performance. They inform the medical commander of any medical threat to personnel, to include any concerns for Biological Warfare Agents. After deployment to overseas locations, they work with medical personnel to complete the After Action Report and ensure follow-up of deployed personnel (post-deployment health histories, terminal chemo prophylaxis, follow-up TB testing/blood samples, etc.).

3. MTF/SGP's Specific Role(s)

- Collaborate with MTF/CC to ensure best-qualified individual appointed as MIO.
- Ensure MIO receives required training within first year of assignment.
- Coordinate with base intelligence community to ensure MIO access to line intelligence assets. Medical intelligence reports, in some cases, require security clearances and special handling and dissemination of the information.
- Collaborate with operational squadron commanders and mobility planners to incorporate MIO early in contingency planning.

4. Summary

Team Aerospace plays a key role in incorporating preventive medicine activities into the war mobilization plan. Medical Intelligence identifies the specific medical threats prevalent in a deployed location and is thus the starting point for formulating preventive medicine interventions. These interventions will be effective only if the medical intelligence on which they are based is accurate and current. The MTF/SGP

provides professional oversight for the MIO, so that they can produce high quality Medical Intelligence to focus force protection measures.

References

- AFDD 2-4.2, *Health Services*
- AFI 48-106, *Medical Readiness Planning and Training*
- Armed Forces Medical Intelligence Center (AFMIC)
- USAFSAM/ATR

G. Pre/Post Deployment Health Assessments

1. Introduction

The pre/post deployment health assessment is a part of the Force Health Protection (FHP) program that optimizes health readiness and protects Service members from all health and environmental hazards associated with military service. For the purposes of joint health surveillance, a deployment is defined as a troop movement order for 30 continuous days or greater to a land-based location outside the United States. If this requirement is met, a pre-deployment health questionnaire is given to each member within 30 days prior to deployment. They are to be immediately reviewed by a health care provider (including medical technicians) Positive responses outlined in Joint Chiefs of Staff memorandum 1 Feb 02 subject: *Updated Procedures for Deployment Health Surveillance and Readiness* must be referred to a physician, nurse, physicians assistant, or independent duty medical technician. Original forms are placed in the medical records and copies are forwarded to the Army Medical Surveillance Activity (AMSA) who manages the Defense Medical Surveillance System (DMSS) deployment health data repository. Within five days upon redeployment back to home station any members who filled out a pre-deployment assessment must now fill out a post-deployment assessment. Again initial review can be performed by a medial technician but positive responses must be referred to a physician, nurse, physician's assistant, or independent duty medical technician. Again the original is placed in the medical record and a copy is sent to AMSA. The DMSS integrates the data and trend analysis reports are provided to the Joint Staff, combatant command, and the Services.

2. Overview of Roles/Responsibilities

- MDG/CC: It is the responsibility of the medical commander to meet all medical surveillance requirements.
- Public Health: Administers pre/post deployment health assessment as required. Ensures original placed in medical record and copies sent to AMSA.
- Medical Technicians: Review pre/post deployment assessments and refer to provider if positive response.
- Healthcare Provider: Review pre/post deployment assessments. Evaluate deployment related health concerns using the Department of Defense Post-Deployment Clinical Practice Guidelines.

3. MTF/SGP's Specific Role(s)

- Provide professional oversight of the pre/post deployment health assessments being performed.
- Ensure prompt review of assessments and appropriate consultation as necessary in the pre/post deployment
- Professional supervise the providers so that they are within Pre-Post-Deployment Clinical Practice Guidelines.

4. Summary

Pre/post deployment health assessments have been incorporated throughout the Services for deployments greater than 30 days to overseas locations without permanent medical facilities. The assessments are a part of overall FHP and are integrated into a comprehensive health surveillance system. Appropriate distribution of required assessments and timely completion are tracked by the Joint Staff and the Services so it is important to ensure a well-run program is in place at base level.

References

- AFDD 2-4.2, *Health Services*
- AFI 41-106, *Medical Readiness Planning and Training*
- DODD 6490.2, *Joint Medical Surveillance*
- DODD 6490.3, *DoD Immunization Program for Biological Warfare Defense*
- Joint Staff Memorandum MCM-0006-02, 1 February 2002, *Updated Procedures for Deployment Health Surveillance and Readiness*
- AFI 41-106, *Medical Readiness Planning and Training*
- AFI 48-101, *Aerospace Medical Operations*

Chapter 14. Safety Program: Flying and Ground

A. Base and Flying Safety Programs

1. Introduction

Success in safety programs is no accident. Successful programs play a key role in maximizing mission accomplishment by protecting human resources, reducing costs, and improving worker performance. An essential part of any successful safety program is flight surgeon involvement and familiarity with the flying and flying support missions. Frequent and regular squadron flying as well as visits to operational support facilities build knowledge of those working environments. Full participation in flying squadron activities, to include commander's call, squadron senior staff meetings, and pre-deployment medical intelligence briefings builds credibility and mutual trust between fliers and their flight surgeon. Wing flight safety meetings, crew resource management seminars, and human performance enhancement briefings also demonstrate professionalism and commitment to the flying mission. The safety programs primarily involve the Flight Medicine (FM) flight, with support from the Public Health (PH) flight and aerospace physiology unit.

Note 1: Operational support facility visits to the RAPCON, air traffic control tower, life support shop, and flying squadron, are different from occupational medicine shop visits. Such areas are not high priority visits for bioenvironmental engineers because there are normally few physical or environmental hazards. The flight surgeon visits to gain better knowledge of the working environment of his patients, to fulfill checklists for the life support shop (they are required to flight surgeon visits by their rules), check these low risk by workplace exposures but key work areas for any safety issues and to advise the commander of any potential problems and recommend solutions.

2. Overview of Roles/Responsibilities

- Flight surgeons are attached or assigned to flying squadrons, and must fly frequently enough to maintain currency in their primary aircraft. They should attempt to fly with as many different aircrew in their squadron as possible. Weekly contact with the flying squadron is important: if sortie length is short, usually squadron visits occur in conjunction with weekly flights; if sortie length is long, squadron visits without flying may be optimal.
- Flight surgeons, with support from other parts of team aerospace (particularly public health and physiology training units), must deliver high quality flight safety and mishap prevention briefings at squadron and wing safety meetings. Flight surgeons should also add their expertise to performance enhancement briefings and seminars for flying and special operational personnel. Flight Surgeons are required to brief aircrew for the Instrument Refresher Courses (IFC) and a standard brief should be available.
- Flight surgeons must be available to their squadron for commander's calls, squadron senior staff meetings, and pre-deployment medical intelligence

briefings. In every possible instance, even if only briefly, the flight surgeon should provide some relevant medical information.

- All flight surgeons should visit life support facilities (including the parachute shop), RAPCON, the air traffic control tower, and fire department.

3. The Chief of Aerospace Medicine's (SGP) specific role(s):

- At most bases, the SGP directs and provides professional guidance for the installation operational mission. As the aerospace medicine team leader, he should be intimately involved with the following functions:
 - Recommending adequate non-clinical time for flight surgeons to complete flight and safety program requirements. This is usually done by directing the FM flight commander to allow for this scheduling.
 - Assuring regular flight surgeon contact with operational support facilities.
 - Demonstrating good briefing style.
 - Emphasizing teamwork in human performance enhancement by involving FM and PH flights as well as aerospace physiology.
 - Establishing procedures to identify potentially difficult operational working and flying environments.
 - Encouraging direct flight surgeon support to flying unit commanders.
 - Review the quality of briefs delivered by Team Aerospace assist the Team Aerospace staff on preparing and delivering high quality briefs.
- Additionally the SGP is responsible for:
 - Assessing the effectiveness of all flight medicine physicians in the flight safety program.
 - Assessing the effectiveness of the operational support facility visits.
 - Encouraging all flight surgeons to enhance their flight safety knowledge by attending the Aircraft Mishap Investigation and Prevention course at the USAF School of Aerospace Medicine.
 - Role modeling, by briefing wing safety meetings and regular flying.
 - Spending meaningful time with flight surgeons to emphasize the role of aerospace medicine in prevention of mishaps and promotion of mission accomplishment.

4. Summary:

Flight surgeons have a unique knowledge of human physiology and behavior that defines the role they should assume in base flight safety programs. Physicians should never be seen as self-loading baggage when flying; their role should be to learn as much as possible about what it is like to assume different aircrew roles. Flight surgeons must take every opportunity to enhance the aircrew-physician relationship and foster trust in a relationship that is atypical between the doctor and patient (in that the aircrew member may attempt to hide medical problems). They must never miss an opportunity to promote health, enhance human performance, and increase safety-mindedness. The SGP must understand this role, be able to model and teach it, and then ensure that the expectations are being met.

References

- AFI 48-101, *Aerospace Medical Operations*
- Primary Care Optimization in Flight Medicine and Physical Examination and Standards Section, 25 Apr 01
- Health Services Inspection Guide, *Element EX.1.5.5, Flight Surgeon Operational Responsibilities*, Jan 2003

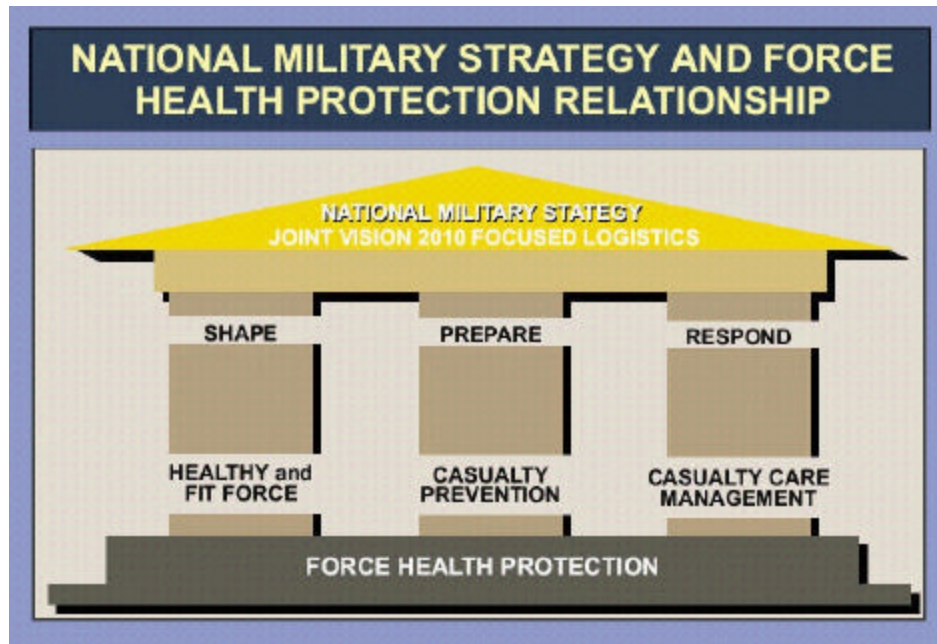
Chapter 15. Preventive Medicine

“A corps of medical officers was not established solely for the purpose of attending the wounded and sick... the labors of medical officers cover a more extended field. The leading idea, which should constantly be kept in view, is to strengthen the hands of the Commanding General by keeping his army in the most vigorous health, thus rendering it, in the highest degree, efficient for enduring fatigue and privation, and for fighting. In this view, the duties of such a corps are of vital importance to the success of an army, and commanders seldom appreciate the full effect of their proper fulfillment.”

**Major Jonathan Letterman
Medical Director of the Civil
War Army of the Potomac**

A. Introduction

This tactics guide, meant to be an easy reference tool for the SGP or Chief of Aerospace Medicine, the professional leader of Team Aerospace, has its basis in the many documents, instructions, and publications that describe the goals and programs of the Air Force Medical Service (AFMS). The ultimate reference, the National Military Strategy, whose support is the true job of all military members, active duty, guard and reserve, officer and enlisted, line and non-line, provides the broadest support for what Team Aerospace does every day, whether in garrison or deployed. This National Military Strategy can be summed up in the three pillars of *Shape*, *Prepare* and *Respond*. Department of Defense Joint Publication 4-02, Doctrine for Health Service Support in Joint Operations, which, along with Air Force Basic and Operational Doctrine, form the basis for Air Force Doctrine Document (AFDD) 2-4.2, Health Services, correlates the three pillars of National Military Strategy to the three pillars of Force Health Protection (FHP): a healthy and fit force, casualty prevention, and casualty care management. (Figure I-1 from JP 4-02).

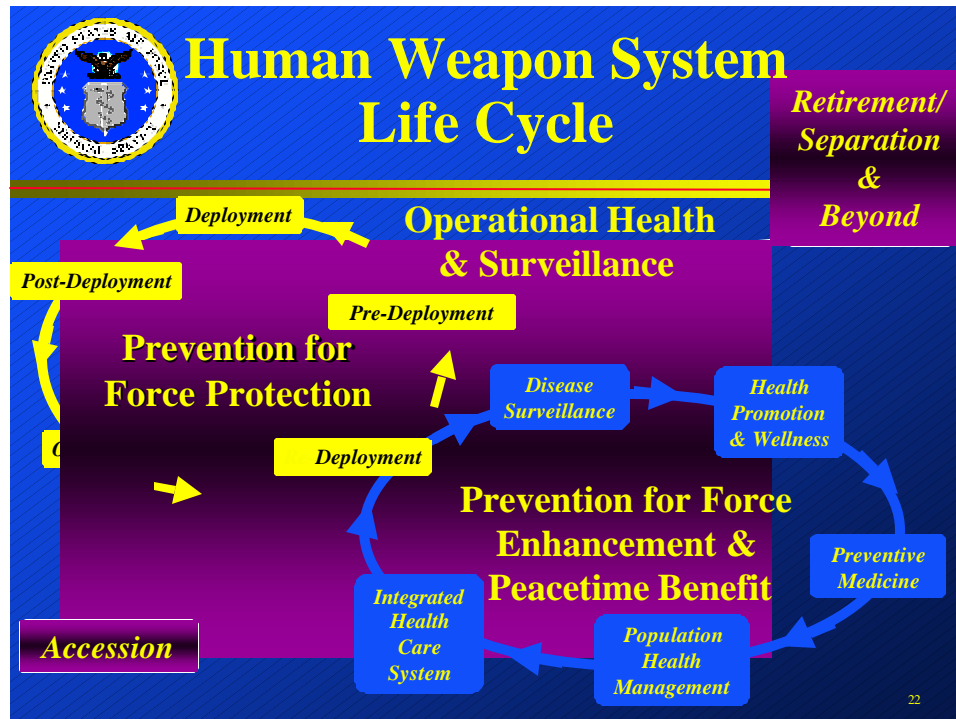


(Figure I-1 from JP 4-02 – National Military Strategy and Force Health Protection Relationship)

Successful execution of the third pillar, casualty care management, especially with the limited medical forces in theater that are the consequence of the leaner, smaller medical deployment footprint of today's military, is directly dependent on the line commander's strict enforcement of the first two pillars. A proactive preventive medicine program is the key to both maintenance of a healthy and fit force and casualty prevention. Although the AFMS provides the environment in which all of these components of FHP can succeed, it is the combatant line commander who bears ultimate responsibility for the execution of the FHP mission.

B. Prevention in the AFMS

The Air Force defines Force Health Protection in one of the fifteen foundational doctrinal statements that form the basic principles and beliefs upon which AFDD 2-4.2, Health Services, is based. Force Health Protection is “a proactive doctrine, a total life-cycle health support system that addresses all health related threats affecting the combat force and the supporting community before, during and after deployment.” (AFDD 2-4.2 Figure 4.1)



(From AFDD 2-4.2 Figure 4.1 - Human Weapon System Life-Cycle Maintenance Program)

In Chapter 4 of the Air Force's Health Services Doctrine Document, Force Health Protection is again defined in terms of the three pillars referred to in JP 4-02. The first pillar, a *healthy and fit force*, is a necessary precondition for all other elements of FHP. Promoting wellness and ensuring quality of life to strengthen the human component of our force against disease provides a force that is mission-ready and reliable in body mind and spirit. Fit and healthy personnel are more resistant to illness, less prone to injury and the influence of stress and better able to quickly recover should illness or injury occur. Personnel in a healthy and fit force maintain and improve the health of their bodies and minds in a supportive environment. This requires attention to physical fitness, injury prevention, workplace hazards, disease prevention, nutrition, and dental health. The supportive environment should include elements of community and family health (and relationships) support as well as occupational and environmental health programs. Although these preventive concepts are addressed in all phases and locations of the Air Force mission, their primary focus occurs when the airman is at their home station, or in garrison. Examples of this first pillar of FHP that fall within the realm of the Aerospace Medicine Program (AMP) include several activities considered to fall under Health Promotions (often managed though the Health and Wellness Center or HAWC). These include population assessment tools such as the Health Assessment and Review (HEAR) surveys, tobacco prevention and cessation, fitness programs, and nutrition education. Behavioral Sciences might oversee alcohol and substance abuse programs and stress management programs, possibly in conjunction with Family Advocacy. Other processes within the AMP (and some outside of the AMP) including the many occupational

medicine programs, aircrew health, the aircrew contact lens program, travel medicine, medical intelligence and medical prophylaxis programs, the base safety programs, immunizations clinic, tuberculosis detection and control, sexually transmitted disease, Hepatitis C, and HIV detection and treatment, the animal bite program, the military treatment facility's employee health and infection control programs, Put Prevention into Practice (PIIP), the periodic health assessment (PHA) program (including periodic dental exams and maintenance), the Personal Reliability Program (PRP), home base rations inspections, food sanitation and food handler programs, water testing programs, vector control programs and even the base education office, the chapel, services (including the fitness center and base intramural programs) and family support center fit within the realm of maintaining a healthy and fit force. Several of these processes are now included under the PHA-Individual Medical Readiness (PIMR) program, whose aim to ensure that all Air Force personnel are regularly assessed in order to ensure their medical and dental fitness and readiness to deploy on short notice. These programs are managed by AMP members from Bioenvironmental Engineering (BEE), Force Health Management (FHM)– formerly Public Health, Flight Medicine, Optometry, and the HAWC, personnel from parts of the medical treatment facility (MTF) outside of team aerospace, and others from the line side of the base or wing.

The second pillar of FHP, also in the realm of preventive medicine, is *casualty prevention*. Effective implementation of this pillar prevents casualties from environmental, occupational, operational, nuclear, biological, and chemical warfare threats. Naturally, a healthy and fit force, the product of adherence to the first pillar of FHP, is already more resistant to such threats. Still, the second aspect of prevention can be distinguished from the first in that the commander, with the support his or her medics, utilizes programs targeted specifically at identifiable threats. This occurs both in garrison and at deployed locations, although a higher proportion of the preventive medicine that takes place off station falls under this second pillar. The fundamental tenets of casualty prevention listed in the AFDD include control of disease and non-battle injury through the identification of preventable threats and implementation of countermeasures, prevention of infectious disease, prevention of mental health casualties, prevention of environmental and occupational casualties, and risk communication. Clearly, there is considerable overlap between the first two pillars and the programs that they encompass.

A robust health surveillance system, a part of the second pillar, is a critical component of FHP. Deployment and in-garrison health surveillance includes identifying the population at risk (including pre- and post-deployment health assessments), recognizing and assessing hazardous exposures (medical, environmental, psychological and occupational), employing specific countermeasures and monitoring health outcomes. This surveillance should be an ongoing and systematic collection of health data with appropriate and timely dissemination up and down the medical and line chain of command with analysis leading to specific responses to threats identified. The most basic of such surveillance processes include the many occupational health programs (hearing conservation, respiratory protection and radiation protection among them), the food handler and MTF employee health programs, aircrew health and even the PHA- but only if the individual data collected during the various assessments is examined in a compiled fashion in an effort to

identify, analyze and address trends. Simply performing the exams without looking at the larger picture, such as the periodic review of the 1041 log that is done as part of the management of the aircrew health program, would not be considered surveillance. Larger-scale, systemic surveillance activities include the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE), a centralized program managed by the Air Force Institute for Environment, Safety and Occupational Health Risk Analysis (AFIERA) at Brooks City Base, Texas. ESSENCE pulls ICD-9 codes from the Ambulatory Data System (ADS) input of all Air Force MTF's and looks for statistically significant increases in the incidence of certain disease syndromes or symptom clusters that might indicate an outbreak. The Joint Medical Workstation (JMeWS) works similarly in the deployed environment, collecting data from Army, Navy, Marine and Air Force units deployed to a common area by tapping into service-specific Patient Encounter Modules (PEM) such as the Air Force's Global Expeditionary Medical System (GEMS), the Navy-Marine's Shipboard Automated Medical System (SAMS), or the Army's deployed Composite Health Care System II (CHCSII).

The third pillar of FHP, *casualty care management*, while not traditionally considered a preventive discipline, is directly influenced by successful efforts in meeting the challenges of the first two pillars. This includes preparation for the evaluation, treatment, and aeromedical evacuation of diseases and injuries (battle and non-battle), a process that can be considered part of the second pillar of FHP and one that requires significant input from the SGP.

The Air Force Doctrine Document echoes the Joint Publication in its emphasis that it is the individual, their supervisor, and, ultimately their commander, who bear the chief responsibility for FHP. The medic is responsible for helping to create the supportive environment. The SGP does this through the management of the collection of prevention-based programs that form the core of the Aerospace Medicine Program and through active advice and consultation to the medical and line chain of command.

Most of the prevention programs listed above that fall under the auspices of the AMP, including those that generally take place only at the home base and might be considered "base preventive medicine," will be covered elsewhere in this guide. However, those aspects of prevention that are some of the most visible, enjoying constant monitoring by medical group commanders, line commanders, and higher headquarters, are those activities associated with clinical preventive services and their impact on population health.

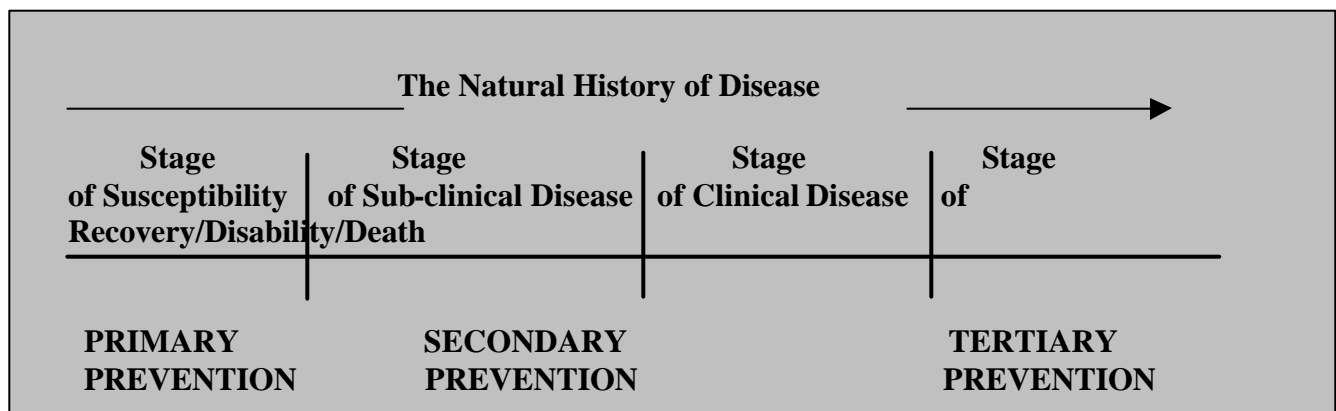
C. Clinical Preventive Medicine

Although the SGP will usually be trained in a preventive medicine specialty (or two), this will not always be the case. Therefore, a basic understanding of the preventive medicine lexicon cannot be assumed. In light of this, a brief review of terminology as it relates to basic preventive medicine follows.

Health, according to the Constitution of the World Health Organization (WHO) of 1946, is a state of complete physical, mental and social well-being. It is not the absence of disease or infirmity. Preventive Medicine concentrates on keeping people well. Among the goals of Preventive Medicine are disease prevention and health promotion. Disease prevention focuses on those activities that prevent the occurrence of disease or that lead to an early diagnosis in which appropriate care may cure, prevent or modify the progression of the disease. Health promotion includes those activities that foster physical and emotional well being and increase the length and quality of life. It is based on the premise that many diseases are not caused by unknown or unpredictable factors but by modifiable lifestyle factors. Modifying such factors as physical inactivity, poor diet, tobacco, alcohol and drug use, risky sexual behavior, lack of prenatal care, not using seat belts, etc. can drastically reduce acute and chronic disability as well as premature death.

Preventive Medicine activities are generally divided into the two broad areas of public health and risk factor evaluation. Public health activities target the community and in general benefit everyone (e.g. clean water and air) or benefit those individuals who are not currently under a doctor's care (e.g. large scale screening program for elevated lipids at the Health and Wellness Center (HAWC)). Risk factor evaluation includes those activities that are directed towards those already under a doctor's care. The flight surgeon evaluates a patient for high risk factors that cause disease during an annual PHA (smoking, obesity), educates about healthy lifestyle habits (use of seat belts, increasing physical activity), and if needed screens for the appropriate conditions (high blood pressure, diabetes).

The figure below illustrates the natural history of disease and its relationship to the three levels of prevention: primary, secondary and tertiary.



Primary prevention keeps the disease process (or injury) from beginning by eliminating the risk factors or reducing susceptibility. Primary prevention efforts can be directed toward individuals (health education, immunizations, etc.) or the environment (adequate sewage system, safe drinking water, etc.).

Secondary prevention measures target the disease process before it becomes symptomatic or clinically apparent. It encompasses the early detection and prompt treatment of a disease and includes screening programs and primary medical care (see the links to the Guide to Clinical Preventive Services and Clinical Practice Guidelines below).

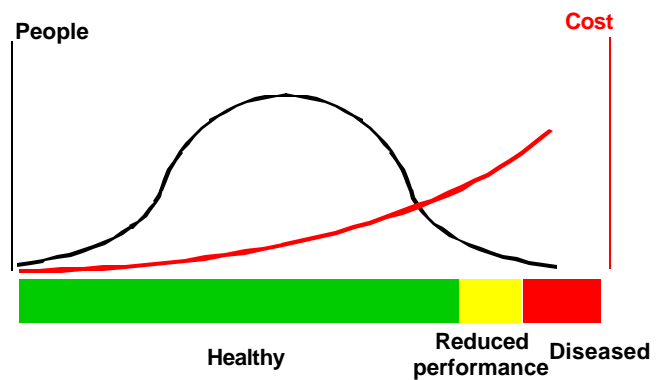
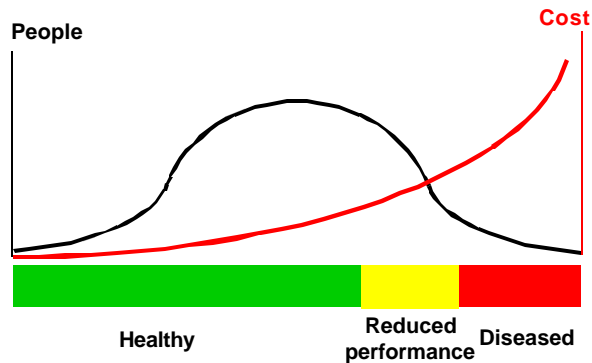
Tertiary prevention is the limitation of disability and recovery and rehabilitation from disease or injury. All three levels of prevention can be used to control the effects of a single disease. The control of stroke, for example, involves primary preventive measures such as health education to eliminate risk factors (smoking, etc), secondary prevention in the form of hypertension screening programs and the appropriate treatment of essential hypertension, as well as tertiary prevention in the form of rehabilitation if a neurologic deficit has already occurred.

The old-fashioned “complete physical” that was commonly employed in American civilian and military clinical practice until relatively recently was one way that clinicians tried to apply a kind of screening process aimed at all three levels of prevention. However, with the emergence of evidence-based health care, utilizing the findings of thousands of studies and longitudinal epidemiological surveys of large populations, expert panels and government agencies have come to recommend specific medical screening exams and patient actions in order to guide clinical organizations, insurance companies, and other providers of health services in providing their populations with efficient and cost-effective health care. The systematic application of such recommendations in the care of all beneficiaries in a health organization turns clinical preventive medicine into population health.

D. Population Health

The Department of Defense defines population health as “balancing the awareness, education, prevention, and intervention activities required to improve the health of a specified population”. The difference between management of the individual patient and management of the health of the population is illustrative. In the care of the individual patient, the clinician may be inclined to use whatever resources are available to help that particular patient, even if the potential for a successful outcome is minimal and the cost is high, without necessarily regarding or considering what might otherwise be done for other patients with those same resources. Conversely, the population health manager utilizes the entire resource pool in order to maximize benefit for the most people, often measured in terms of dollar cost per year of productive life gained. As the two graphs below illustrate, applying preventive medicine principles through the utilization of education, tests, and procedures proven to prevent illness or detect it at an early stage will increase the number of people without clinical disease by delaying or even preventing the most severe illnesses and injuries that are the most expensive to manage. This investment on the “front end” of the cost/patient curve dramatically reduces the cost required on the “back end.” This saves resources while helping patients live longer and healthier lives.

Health Continuum



Population Health in the AFMS has become increasingly more important, as resources earmarked for health care compete with rapidly increasing medical costs. At the same time a smaller total force coupled with an increasing operations tempo leave little room for reduced performance due to illness or injury. Finally, in an era where MTF's compete with civilian health care programs to recapture patients and thus justify the continued presence of an extended military health care infrastructure, successful population health management equates to healthier and probably happier patients. These patients will likely choose to stay in the military health care system justifying the allocation of resources necessary to continually enhance and improve that system (and also means both a job and job satisfaction for most of the readers of this guide).

Several organizations and agencies have examined the literature in an effort to define which preventive services or tests actually work to diminish morbidity and/or mortality. The Agency for Health Care Research and Quality, a constituent agency of the Department of Health and Human Services, has become the official US government source for guidance regarding preventive services

The following is a listing of some useful Clinical Preventive Services References and links:

- **Agency for Healthcare Research and Quality-**
 - <http://www.ahrq.gov>
- **Guide to Clinical Preventive Services, 2nd Edition, 1996**
 - <http://www.ahrq.gov/clinic/cpsix.htm>
 - Report of the U.S. Preventive Services Task Force
 - Provides the latest available recommendations on preventive interventions: screening tests, counseling, immunizations, and chemo prophylactic regimens for more than 80 conditions.

- **Guide to Clinical Preventive Services, 3rd Edition, 2000-2003-**
 - <http://www.ahrq.gov/clinic/cps3dix.htm>
 - The third edition of the Guide to Clinical Preventive Services updates some of the recommendations from the previous edition and includes some additional topics. Recommendations from the Task Force are currently being released incrementally as they are completed.
- **Put Prevention Into Practice-**
 - <http://www.ahrq.gov/clinic/ppipix.htm>
 - PPIP is a program to increase the appropriate use of clinical preventive services, such as screening tests, immunizations, and counseling, based on the U.S. Preventive Services Task Force recommendations.
- **Guide to Community Preventive Services (CDC)-**
 - http://www.thecommunityguide.org/home_f.html
 - Sponsoring agency is the U.S. Preventive Services Task Force.
- **Healthy People 2010-**
 - <http://www.healthypeople.gov/default.htm>
 - Sponsoring agency is the U.S. Dept. of Health and Human Services.
 - Healthy People 2010 is the prevention agenda for the Nation. It is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats.
- **National Guidelines Clearinghouse-**
 - http://www.guideline.gov/body_home.asp
 - A public resource for evidence-based clinical practice guidelines. NGC is sponsored by the Agency for Healthcare Research and Quality (formerly the Agency for Health Care Policy and Research) in partnership with the American Medical Association and the American Association of Health Plans.